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IN THIS ISSUE

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MARGINAL NOTES

The Ninth National Conference—

After carrying the story of standards to the West Coast through the Eighth National Conference on Standards reported in this issue, the American Standards Association again returns to the East Coast for the Ninth National Conference. The place will be the Hotel Roosevelt, New York; the dates — November 18, 19, 20, 1958. Theme of the Conference will be announced in a later issue. Put these dates on your calendar now. Don't miss the Ninth National Conference on Standards.

List of American Standards, 1958—

An up-to-date list of American Standards is now being compiled for publication as Part 2 of the January 1958 issue of THE MAGAZINE OF STANDARDS. A number of additional features will make this price list and index more valuable than ever before. One addition will be a listing for the first time of the international recommendations published by the International Electrotechnical Commission and the International Organization for Standardization.

The Magazine Index—

The Index to Volume 28, 1957, of THE MAGAZINE OF STANDARDS will be issued as Part 2 of the February 1958 issue.

The Ladies at the Conference—

Under the able leadership of Mrs R.A. Isberg of Redwood City, California, the 25 ladies who accompanied their husbands to San Francisco had an inside view of many of the city's interesting shops and entertainment spots.

Enthusiastic comments were heard about the sightseeing trip around the city and boat trip around the harbor.

Through the courtesy of Miss

Virginia B. Worth of the San Francisco Convention and Visitors Bureau, and following a get-acquainted breakfast at the St Francis Hotel, the large group of ladies separated into smaller groups to visit behind-the-scenes many of the more famous shops. The jade collection at Gump's and the tour of the workrooms at Podesta Baldocchi flower shop brought the most enthusiastic comments.

But most appreciated of all seemed to be the opportunity to become acquainted with others of similar interests and the feeling of comradeship that resulted.

Pictures of the Conference were taken by V. M. Hanks, Jr, St Francis Hotel, San Francisco, except as otherwise indicated.

The Front Cover—

INS Photo

A nonstandard note in the national conference devoted to standards was the appearance of beautiful Christine Falkenberg (Miss San Francisco) at the session on "How Standards Help the Motion Picture Industry" during the National Conference on Standards. Miss Falkenberg is a student at the University of California.

In this picture, Axel Jensen, director of Television Research, Bell Telephone Laboratories, Murray Hill, N. J., and a speaker at the session, is showing Miss Falkenberg the standard 35-mm film used for many years in motion picture theatres, in comparison with the newer 65-mm film, used for wide-screen spectaculars. The film Mr Jensen and Miss Falkenberg are holding is a clip taken from "80 Days Around the World."

This Month's Standards Personality

L J. MARKWARDT reverses today's interest in new materials and spends his time and thought in research that has advanced wood as an engineering material and enables it to keep pace with developments in other fields. Now assistant director of the U. S. Forest Products Laboratory at Madison, Wisconsin, Mr Markwardt is known both nationally and internationally for his work in research and standards. Mr Markwardt has been with the Forest Products Laboratory since 1912 except for three years, from 1914 to 1917, when he taught at the Engineering College of the University of Wisconsin. He returned to the Laboratory in 1917 as chief of the Division of Timber Mechanics.

This year Mr Markwardt was cited for the Superior Service Award of the United States Department of Agriculture "for demonstrating unusual competence, versatility, vision, and capable leadership in executing wood products research programs of major benefit to our national welfare, and furthering international unity through interchange of technical knowledge."

This is recognition of the work he has done as a member and officer of many international committees and as chairman of the Second International Conference of the Food and Agriculture Organization of the United Nations (FAO) in 1951. It also includes recognition of his work with the American Standards Association and the American Society for Testing Materials.

Mr Markwardt has long been a member of ASA Sectional Committee A14, Construction, Care, and Use of Ladders, and is its present chairman. He is a member of ASA Sectional Committee O5 on Wood Poles, and of the ASA Construction Standards Board.

His work on standardization in the American Society for Testing Materials has been even more extensive. He has served on the Board of Directors and as vice-president and president of the Society. He has been a member of Committee D-7 on Wood since 1920, and served as secretary from 1943 to 1948, when he became chairman. As chairman he greatly enlarged the activities of the committee, resulting in many more specifications relating to methods of testing wood and wood-base materials, specifications for wood preservatives, nomenclature, and methods of chemical analysis. A complete set of these standards, now numbering 40, has just been issued by ASTM.

When the new ASTM Technical Committee E-6 was organized in 1947, Mr Markwardt was its first chairman. He has helped stimulate research and standardization as chairman of the special ASTM Board Committee that developed the "Award of Merit" system in recognition of outstanding research papers or service in standardization.

A prolific writer, his published papers include U. S. Department of Agriculture technical bulletins, magazine articles, and sections on wood in a number of engineering handbooks.

THE HOWARD COONLEY MEDAL

Roger E. Gay, Newport, New Hampshire, has received the nation's highest award in the field of voluntary standards—the Howard Coonley Medal. The gold medal was presented to Mr Gay by H. Thomas Hallowell, Jr, president of ASA, at the Annual Awards Dinner, November 14.

Mr Gay, a former president of The Bristol Brass Corporation, Bristol, Connecticut, has just completed an assignment with the U.S. Department of Defense as Director of Cataloging, Standardization and Inspection.

He was awarded the Howard Coonley Medal for "great service in advancing the national economy through voluntary standards." Others to whom the medal has been presented are The Honorable Herbert Hoover, William L. Batt, and Senator Ralph E. Flanders, Thomas D. Jolly, Harold S. Osborne, and Frederick S. Blackall, Jr, as well as to Howard Coonley, in whose honor the medal was named.

Mr Gay became president of The Bristol Brass Corporation at the age of 37, the youngest president in the history of the 107-year-old company. In 1955 he was given a leave of absence from his company to enter Government service. He was president of the American Standards Association for 1952, 1953, and 1954.

He has held directorships in the National Association of Manufacturers; Research Corporation; Copper and Brass Research Association; American Standards Association; American Hardware Corporation; Whitney Chain Company; Bristol Traction Company; Bristol Associates, Inc.; Connecticut Mining and Milling Company and the Bristol Bank and Trust Company.

During World War II Mr Gay was a member of the War Production Board Advisory Committee to the copper and brass industry and chairman of a similar committee for the Office of Price Administration.

THE STANDARDS MEDAL

John Robert Townsend, special assistant to the Assistant Secretary of Defense (Research and Engineering) was awarded the Standards Medal for 1957. The medal, awarded annually by the American Standards Association for leadership in the actual development and application of standards, was presented to Mr Townsend at the Awards Dinner, November 14.

Mr Townsend, a past president of the American Society for Testing Materials and a past chairman of the ASA's Standards Council, has just been elected vice-president of the American Standards Association.

He was granted a leave of absence from Bell Telephone Laboratories in 1952 to become director of materials and standards engineering at Sandia Corporation. At Bell Laboratories he was active in the initiation and promotion of the material testing laboratories, as well as its x-ray, optical, welding, plastics, and metallurgical laboratories. He has now been granted leave from Sandia for his present position, where he will also serve as director of the Office of Fuels, Materials, and Ordnance.

Mr Townsend is chairman of the materials advisory board of the National Academy of Sciences, consultant to the Office of Defense Mobilization, and a member of the advisory committee of the National Bureau of Standards. In 1952 he was chairman of the American-British-Canadian Conference on Engineering Standards.

CITATION: *As an outstanding spokesman, able administrator, and wise diplomat, he has for many years played a major part in winning greater recognition of, and support for, the voluntary standards movement. As a director of several trade associations and chairman and president of The Bristol Brass Corporation, he used every opportunity to further the cause of standards in private industry. During his three terms as president of the American Standards Association, he addressed audiences in all parts of the country in an effort to broaden the understanding of the social, economic, and technological significance of standards. During his two-year service as Director of Cataloging Standardization and Inspection, Department of Defense, he spearheaded the efforts of the Federal Government to develop more effective standardization practices and to coordinate government standards with those of industry. He was one of the first to envision the vital role that standards will have to play in the new technologies of electronics, automation, and nucleonics and to advocate the need for planned standards in these fields.*

CITATION: *For almost forty years he has dedicated his profound knowledge, vast experience, and untiring energy to the development and formulation of practical engineering standards for the United States and its allies. As president, a director, and a member of many committees of the American Society for Testing Materials; as a director, as the chairman of the Standards Council, and as a member of many executive and sectional committees of the American Standards Association; as chairman, member, or consultant of a number of Federal Government departments, agencies, and boards—in all these functions and on numerous committees of other national organizations, he has performed invaluable services for the betterment of the national economy and defense through standards. As a member of the American-British-Canadian (ABC) Conference on Engineering Standards he has made a major contribution to international standardization. Author of more than sixty technical papers, articles, and reports, he has added substantially to the literature of standards. During his five-year service as director of materials and standards engineering of the Sandia Corporation, he carried forward important pioneering work in the development and application of standards in the field of nuclear energy.*

The Medalists Predict Changes in the Standards Scene

"The application of national and other standards is one of the few means left to industry to achieve major cost savings through more efficient operations and better buying," declared Roger E. Gay in his speech accepting the Howard Coonley Medal. "But such savings cannot be achieved unless top management understands the value of standards and authorizes a full standardization program on company, industry, and national levels," he said.

He urged that a full-fledged standardization executive be part of the management team to carry out such a program.

This would be only another logical step in the refinement of management methods that has taken place during the last 20 years or so, he said. He pointed out that today we have on the top management team, among others, the sales manager, the purchasing agent, the manufacturing vice-president, the comptroller, and the treasurer. Not too long ago the sales manager was a traveling salesman, the purchasing agent an order clerk, the manufacturing vice-president a plant manager, the comptroller a bookkeeper, and the treasurer was cashier. Rarely did any one of them have a say in company policy, he pointed out. He pointed to the transition now going on of the old-time laboratory assistant into the research manager and the traffic clerk into the traffic manager. "I firmly believe," he said, "that the day is not too far away when systematic standardization will be the next step in management refinement in many industries which up to now have by-passed this opportunity."

Mr Townsend urged intensive immediate study of the new environments in which we have been placed by recent developments, and application of these studies in planning laboratory work and in formulation of standards.

"To continue our American way of life and to give our citizens the fullest possible benefits of our physical civilization and at the same time to be strong enough to deter an aggressor, poses a very special problem," he said. "Therefore, we must be selective and smart in the use of our defense equipment and in the employment of new science if we are to attain these joint objectives."

He pointed to the fact that we have been forced into new environments that have brought in speeds beyond the speed of sound, greater forces, higher temperatures, high levels of sound and lethal radiations. We thus have new environments of shock and vibration, high ambient temperature, high sound power, radiation, extremely low vacuum, underwater navigation, and communication.

"We must quickly collect for scientific and engineering needs vast quantities of data if we are to provide informed designs," he said. Therefore, standardization of methods of measurement, methods of test in process control, tests of environment effect on materials and components is the very heart of the technical problem, in Mr Townsend's opinion. "We must look upon standards as an essential tool in this vast national problem," he said. "If we are alert to these needs and changes in this technology, and if we can recognize, select, and standardize the best methods, we will succeed."

Registration *for the Eighth National Conference on Standards at the St Francis Hotel, San Francisco.*

Conferees *from all parts of the country, and Canada, heard ASA's officers call for greater support of national standards.*

At ASA's Annual Meeting, *November 13, Cyril Ainsworth, Technical Director; Vice Admiral G. F. Hussey, Jr, USN (ret), Managing Director; T. G. McGuire welcoming the conference; H. Thomas Hallowell, Jr; A. S. Johnson.*

THE EIGHTH NATIONAL CONFERENCE ON STANDARDS

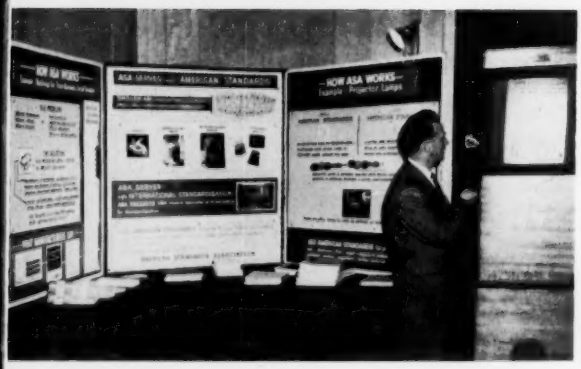
Some 450 executives and engineers met in San Francisco November 13-15 at the Eighth National Conference on Standards. They came from all parts of the United States and from Canada.

"Because this is the first time a National Conference on Standards has been held west of the Rockies, it is a memorable event in the history of the voluntary standards movement," said T. G. McGuire in welcoming the conference to California. Mr McGuire is president of the Industrial Indemnity Company of San Francisco.

Pointing to the industrial development of the West and the dramatic growth of population there, he estimated that by 1978 this area will contain 20 percent of the country's population and 15 percent of the nation's manufacturing capacity. A new group of skilled engineers and technicians will be needed to man these new plants that will be built in the West, and to work with the new electronic controls and computers, he said. A constant flow of new standards will be needed to cover terminology and symbols of new techniques, rating and dimensions of new equipment, new materials and products, and to protect the public as well as employees. He called on ASA and other voluntary organizations to supply standards to industry when needed and not wait for the government to do the job.

Reports of cost-cutting programs by companies during the past year have largely ignored standards despite the fact that they are one of the most important cost-cutting tools, declared H. Thomas Hallowell, Jr, in his keynote speech. Mr Hallowell is president of the Standard Pressed Steel Company and president of the American Standards Association. Theme of the conference was "Standards—Key to Progress and Profits."

T. G. McGuire, *president, Industrial Indemnity Company, San Francisco (right), welcomed the conference at its opening meeting, November 13. ASA President H. Thomas Hallowell, Jr (center) presented the keynote address. Arthur S. Johnson, chairman of the ASA's Standards Council (left) reported on the work of the Association.*



Left—A. E. Crom, *vice-chairman of standards, American Society of Tool Engineers, San Diego, California, examines literature at ASA's Membership Exhibit at conference registration center.*

Above—*Constantly turning slides from "The Strange Case of the Seven-Sided Post Hole" and the exhibit "How ASA Works," brought the story of American Standards to San Francisco.*

Top management in American industry is not sufficiently aware of the cost-saving potential of standards, Mr Hallowell said. Although mass production may be called an American invention, and company standards are well advanced in this country, the United States and its private industry have lagged behind many other industrial countries in creating national standards coordinated for the benefit of the entire nation.

"In a cost-cutting year like 1957, many companies have even tried to save the small membership fee for the organization that makes it possible to develop national cost-saving standards," Mr Hallowell pointed out. As an example of the savings to be gained by the user of nationally uniform standards, he pointed to the American Standards for drafting practices. With completion of the Y14 series of American Standards, truly national drafting standards will be available, making it unnecessary for companies to redraft others' drawings or to prepare expensive explanations, he said.

"A well developed set of voluntary national standards is a sign of advanced civilization and technology," Mr Hallowell declared. "The existence of national standards proves that groups of different social and economic interests within a nation know how to cooperate constructively, develop their spiritual and material resources, and eliminate unnecessary waste. Voluntary national standards are concrete evidence for the functioning of democracy. Like all democratic manifestations, voluntary standards are more difficult to achieve than dictatorial decrees. But they are more effective and more respected."

Nuclear energy, electronics, and automation are the fields that require standardization most urgently at present, he said. Tremendous waste, confusion, and delays can be avoided if standards are developed now ahead of need, or as the need arises, rather than afterwards when chaos forces us to act too late, he warned.

The substantial savings that can be achieved by buying and using standard products rather than specials are the most immediate of all savings that can be made by using standards, Mr Hallowell said. For this reason purchasing agents, aware of the value of standards, are among the most ardent supporters of the voluntary standards movement.

Mr Hallowell urged those present to remind the people in charge that standards have a place in cost-cutting programs. He also urged that wherever long-range plans are made in research, development, production, and marketing, the basic role of standards in such plans be explained to those in charge.

As to our democratic system of government, national standards do not just happen. They require constant work and vigil to grow and stay alive, he reminded those present.

"The standards movement constantly needs new people to carry on the work of standards making," Mr Hallowell said. "It also needs money to do this. And above all, it needs a universal understanding of its social, economic, and technical significance."

The Annual Meeting of the American Standards Association, held during the first session of the conference, heard Vice Admiral G. F. Hussey, Jr, USN (ret), managing director, report that the most important job undertaken by ASA during the past year is the program on nuclear energy. Six committees have been set up and ASA has assumed the secretariat for the International Committee, TC 85. A large number of delegates, of very high quality both technically and personally, represented the USA through the American Standards Asso-

ciation at meetings of the International Organization for Standardization and the International Electrotechnical Commission during the past year, he reported.

Changes in the staff will take place with the new year, Admiral Hussey declared. Cyril Ainsworth, who has served as technical director for the past 25 years, and as safety engineer before that, will retire as technical director. His services are so valuable, however, that the Board of Directors has asked him to remain with ASA as deputy managing director to do many of the things for ASA that have not been possible heretofore. J. W. McNair, for many years in charge of electrical standards work for ASA and assistant technical director since 1955, will succeed Mr Ainsworth as technical director. The work on standards in the photographic field has been handled by Mr McNair, Admiral Hussey pointed out. An additional engineer will be needed on the staff to take over this work.

"There is a growing recognition of ASA as an important factor in the American economy," Admiral Hussey declared. Pointing out that ASA members have been asked to review their financial support of the Association, he said, "ASA has no problems that cannot be solved by a more adequate budget."

Through the Standards Council, the American Standards Association is helping to establish industrial policy, declared A. S. Johnson, chairman of the Council, in his annual report. Mr Johnson is vice-president of the American Mutual Liability Insurance Company. The Council must find ways and means of getting each and every member of the organizations represented to understand its integrating operation, he said. This must not be done solely at the engineering level, but primarily at the executive level.

Foreseeing that the people of America can maintain their economic skill in the world only as they broaden their intelligent use of knowledge, Mr Johnson said, "Our future does not lie in more gadgetry. Standards will be one of the important media for communicating the vast knowledge that must be distributed."

He urged that management dictate the policy of processing through ASA each and every standard of national significance and provide funds to make the processing possible, and declared, "The national economy demands that this be done. Industry, technology, and government can no longer afford to go merrily along developing conflicting standards and duplicating effort in their development. The costs are too great."

GOVERNMENT AND INDUSTRY USE OF NATIONAL STANDARDS

Sponsored by the General Services Administration, the National Bureau of Standards, and the U.S. Department of Agriculture. Moderator: Lewis Reid, Metropolitan Life Insurance Company, New York, N. Y.

Even though it attempts to make maximum use of industry standards, the Government should not give up responsibility for its own standards, said Dr A. T. McPherson, associate director, National Bureau of Standards. Differences in needs and purpose should be taken into consideration in adapting standards for Government use, he declared. The Government should maintain competence in the technology of products with which it has special concern so that it can determine which industry standards it can use in their entirety and which can be used with minimum modification and adaptation. To prevent misunderstanding in purchasing operations, it is important for the Government to issue its own standards documents, even though this may mean the extensive inclusion of standards from other sources.

The use of common standards by both government and industry is vital to the economic well-being of the country, said John J. Dunn, and is also important to effective logistics support of our military forces. Mr Dunn is staff director for standardization, Office of the Assistant Secretary of Defense (Supply and Logistics). Procedures are being worked out in the Department of Defense, he said, so that when industry requests representation from the military department responsible for standardization of a specific item, it can depend on having all the interests of the Department of Defense presented.

W. C. Stickler, *National Bureau of Standards, Boulder, Colorado, explains the Bureau's standards samples to A. J. Morgan, San Francisco. Standard samples of materials of known composition or that have some definite physical property are made available by the Bureau to scientific and industrial laboratories for use in checking accuracy of measurements or analytical procedures. Radio standards (rear panel) are maintained at the Bureau's Boulder laboratories for checking electrical quantities at radio frequencies in cases where measurement problems are different from those of ordinary electrical standards. The national primary standard of frequency and time interval concerned with precise measurement of the second is also maintained at the Bureau's Boulder laboratories.*

Mr Dunn urged the importance of industry standards that provide the quality needed by the defense department and that are prepared on time to meet the military needs.

"It has been a source of increasing comfort to us in the military to see the steady advance in mutual understanding which has taken place between industry and government in the field of standardization, particularly during the last few years," he declared.

Both industry and government points of view must be kept in mind when formulating requirements for use

by the Government, pointed out Karl S. Geiges, vice-president of Underwriters' Laboratories, Santa Clara, California.

From the standpoint of industry, he said: (1) Material specifications must be given in the form in which they are normally procured from the supplier; (2) Requirements as to types of material should be as general as possible, consistent with performance; (3) Production test requirements should not complicate application of the standard.

From the standpoint of Government, on the other hand: (1) Proprietary materials should not be specified; (2) Equivalency of performance should be explained; (3) References to industry standards should be in proper form, in line with opinions handed down by the Attorney General.

Mr Geiges explained the Underwriters' Laboratories procedures, how UL standards become American Standards, and how they are used in Federal Specifications as good examples of industry standards used by Government.

"The development of national standards for use by industry and Government can be carried out with dispatch and to the complete satisfaction of all parties by utilizing the services of groups experienced in the formulation and daily use of such standards," he concluded.

Through the 40 years that the National Safety Council and the American Standards Association have worked together to provide safety standards for industry and government, the number of people devoting full time to industrial accident prevention has grown from a handful to more than 10,000, said Roy Benson, assistant manager, Industrial Department, National Safety Council. "Their way has been made easier through safety standards," he said. Mr Benson explained that the National Safety Council is represented on ASA committees by industry men carefully selected by the Council's staff. One man on the staff works directly with the ASA staff, is a member of the Safety Standards Board, and is responsible for checking the codes being revised. The Council's Industrial Conference is its all-industry policy-making committee, and the Conference Standards Committee supervises all work on standards.

The Council has special procedures for publicizing standards since standards "are totally useless unless they reach the individuals who can use them," Mr Benson said.

Top management in industry and government should assign men of proper caliber and temperament and of varied experience to work on standards committees, said John W. Parks, supervisor, Inspection and Quality Control, Standard Oil Company of California, San Francisco. This is necessary to improve the continuity of policy and purpose of committees and to provide a democratic and balanced body that will produce specifications for the common good and greatest over-all application, in minimum time, he said.

He urged that standards be written in clear and concise language, organized logically, and leave no doubt as to the intention of the standard. Standards frequently are weakened by "interpretations" when they are not entirely clear, he said. Specifications should not be too detailed nor too sketchy. "Basic to all is the necessity of broad representation of various industries, users, and government bodies on our committees who are willing to grapple with technical issues while appreciating the self-interest of the other fellow, to the end that the profit motive and government responsibility are all equitably served by one standard for each article, commodity, or method," he declared.

Lewis Reid, *Metropolitan Life Insurance Company, New York (standing) was moderator of the session on Government and Industry Use of National Standards. The panel (left to right), John Parks, Roy Benson, Dr A. T. McPherson, Lewis Reid, J. J. Dunn, Karl Geiges.*

Safety and radiological authorities *discussed the control of exposure from ionizing radiation. (Left to right) Dr D. E. Hull, A. C. Blackman, Dr P. C. Tompkins, Albert L. Smith, Norval MacDonald, Cyril Ainsworth, H. Lambie.*

CONTROL OF EXPOSURE FROM IONIZING RADIATION

Sponsored by the American Society of Safety Engineers. H. Lambie, Kaiser Aluminum & Chemical Corporation, Oakland, California, and Cyril Ainsworth, technical director of the American Standards Association, opened the session. Chairman: Norval MacDonald, chief safety engineer, Industrial Indemnity Company, San Francisco.

Estimates indicate that we may be utilizing 50,000 megawatts of nuclear power by 1975. This statement was made in a paper prepared by Paul C. Tompkins and Myron B. Hawkins. Dr Tompkins is scientific director and Mr Hawkins is head of the Technical Developments Branch of the U.S. Naval Radiological Defense Laboratory, San Francisco. If this is fission power, they pointed out, the annual production rate of long-lived fission products will be roughly equivalent to that resulting from detonation of three megatons of fission bombs a week. One half of the megacuries created per year will remain at the end of the subsequent year, about one-seventh at the end of 10 years, and perhaps one-tenth at the end of 20 years. As long as this material remains in the reactors, and if sufficient shielding is provided, it will not be a problem, but, they pointed out, all of the radioactive material may not be always under control.

This can create a biological safety problem as a result of ingestion of long-lived radiotoxins by means of the food chain, or penetrating radiation from the passing radioactive cloud and from deposits on the ground, or inhalation of airborne radioactive materials, or short-range radiations from radioactive particles in contact with the skin. It also can create technical problems due to the harmful effect of radiation on the quality of products, processes, and techniques.

The photographic industry and the radiation detection industry are examples. Other industries can expect technical difficulties if environmental contamination levels continue to increase, the speakers declared.

They pointed to the need for changes in standards for waste disposal and called for research to determine the long-range environmental problem and to provide a livable future environment. The key to the practical development and utilization of nuclear power for the future is the consideration of both safety and economy, they said.

If private industry is to be encouraged in the development of atomic energy, standardization of safety regulations in this field is of vital importance to the entire nation, according to A. C. Blackman, chief, Division of Industrial Safety, State of California.

The Atomic Energy Act of 1954 ended the Federal Government's monopoly on the production of nuclear materials, Mr Blackman pointed out. This encouraged private industry to enter the field and placed responsibility on the various state governments to establish protective safety standards.

There is need for continued cooperation between state and federal agencies if the various levels of government are to discharge their responsibility toward the public in preventing undue hazards, he said.

The Act includes a number of provisions authorizing the AEC to establish regulations to preserve health and to guard against peril to life and property. By its terms, the Federal Government retains control over all reactors and reactor-produced isotopes.

"The subject is not as simple as it may seem on the surface," Mr Blackman pointed out. " 'Ionizing radiation' is a general term which embraces all radiation without regard to its source," he said. "Thus, naturally-occurring radium and polonium are both sources of ionizing radiation, but their use is not affected by the Act. Likewise, x-ray equipment, whether it is used to determine the quality of welds in steel, or to diagnose a disease, or to check visitors to prisons, is a source of ionizing radiation not subject to AEC control."

The situation is also complicated by the fact that Federal agencies, such as the ICC, CAB, Coast Guard, and Post Office have legitimate concern and control over the transportation of radioactive materials, and state agencies have a measure of control in fields such as public health, employee safety, water pollution, and protection of natural resources.

Various government agencies are studying the effect on animal and plant life of disposal of reactor cooling

water and other low level waste into rivers and into the ground, said Albert L. Smith of the U.S. Naval Radiological Defense Laboratory.

Liquid forms of radioactive wastes create the most problems, Mr Smith declared. These water solution wastes are described as high, medium, and low according to their radioactivity content.

"High level wastes," said Mr Smith, "have not as yet been released to any ultimate disposal. They are stored in tanks, a practice which creates an increasingly greater problem as time goes on." Not only will an ever increasing volume of expensive tankage be needed, but these tanks have a safe life measured only in tens of years, whereas the waste has a toxic life of hundreds of years.

Medium level waste is handled in a variety of ways. If soil conditions permit, it can be discharged into the ground, but regular checks must be made by taking samples from test wells surrounding the area to determine if migration is occurring. Near populated areas these wastes must be concentrated and stored as high level material, given ultimate disposal in the ocean, or buried as solid waste.

"Solid waste at the major AEC sites," explained Mr Smith, "is normally buried in trenches. Five installations, Hanford, Oak Ridge, Savannah, NRTS, and Los Alamos, operate permanently controlled burial grounds. Oak Ridge also accepts solid waste for burial from other installations around the country."

More and more use of radioisotopes in oil refineries and in all other kinds of industry, but not necessarily higher radiation exposures, was the forecast of D. E. Hull, California Research Corporation of the Standard Oil Company of California. More people will be handling isotopes, but the exposure per man can be held down, he said. "We are convinced that we can expand the volume of isotopes to the limit of usefulness and still keep radiation exposures well below one-tenth of the now permitted maximum," Mr Hull declared. "And this large safety factor is not unduly expensive. All it takes is an understanding of the problem, applied with a little care and common sense."

Mr Hull described the problems his company encounters in working with isotopes and the methods it uses to protect its employees. The safety record in the research laboratories and petroleum refineries of his company is such that "radiation workers get less exposure than other employees," he said. As the result of precautions taken, radiation workers take only one yearly dental x-ray schedule instead of two, and get photographic instead of fluoroscopic chest x-rays.

He described the technique used in measuring wear of piston rings in gasoline or diesel engines by use of radioactive iron-59, and the safety precautions followed in handling iron-59. He also described precautions taken to prevent inhalation of radioactive dust during experiments to test losses of a fluidized catalyst from a cracking plant.

Cyril Ainsworth, *ASA technical director, internationally known safety expert, with session chairman Norval MacDonald.*

Concerned with protection *for California's citizens—Dr D. E. Hull, California Research Corporation, and A. C. Blackman, chief, California Division of Industrial Safety.*

A. J. Morgan, *safety engineer, Yellow Cab Company, San Francisco (right), explains ASSE exhibit to C. L. Bragaw, National Bureau of Standards, Boulder, Colo.*

COST IMPROVEMENT THROUGH STANDARDIZATION

Sponsored by the American Society for Testing Materials. Chairman: G. J. Grieve, Pacific Paint & Varnish Company, San Francisco. Moderators: Harry A. Williams, Department of Civil Engineering, School of Engineering, Stanford University, and Ernest Maag, principal structural engineer, State Division of Architecture, Los Angeles.

In discussing purchasing's contribution to cost reduction through standards, H. W. Christensen, director of purchases, Columbia-Geneva Steel Division, United States Steel Corporation, San Francisco, used his company as a case study.

Purchasing men have been won over to standardization entirely on the basis of results, Mr Christensen said. These achieve the primary purchasing objective of obtaining greater value through lower costs.

Among the benefits mentioned by Mr Christensen was elimination of 22 percent of items in several commodity classes because of duplications and obsolescence. Use of standard item descriptions, nomenclature, and industry standard numbers made it possible to reduce purchase costs of many items from 30 percent to 40 percent, he said. Adoption of industry standard numbers gives flexibility in making purchases. "We are convinced by demonstrated performance that these programs result in cost savings, efficiency, and progress," he said. However, he warned that standards should be flexible enough to permit progress or modifications, "since we are in the midst of a revolution in materials" due to industrial and technological developments.

Standards employed by industry should represent the best commercial practice, in the opinion of Stanley R. Jepson, Eitel-McCullough, Inc, San Bruno, California.

Mr Jepson described the standards used by his company in design of tube parts, for materials fabricated or purchased, and in production processes.

By scrutinizing proposed or in-use standards from a production standpoint, substantial savings can result,

he said. Referring to a ceramic cylinder used in electronic tubes, he explained: "By changing our standards so that the outside diameter and wall thickness were specified rather than the outside diameter (OD) and inside diameter (ID), a saving of $1200 per month was realized in the purchase of one part." This was due to the fact that the supplier no longer had to grind the ID. The saving amounted to three cents a unit on a monthly schedule of 40,000 units—a sizeable figure.

ASTM standards helped solve the problem of setting up tests for evaluating ceramic-to-metal seals, he said.

He also described a line of beam power tetrode tubes in which the basic internal components have been standardized, although the tubes themselves vary in external appearance. By utilizing the various combinations possible, over a dozen different tube types are available. "The ability to produce many variations of a standard tube line is essential to economic growth," he declared, and emphasized that standards should not be considered sacred but should be investigated so that they establish new goals for which to aim.

Axel Jensen *and R. A. Isberg examine ASTM exhibit.*

G. J. Grieve *(speaking) was chairman of the session on "Cost Improvement Through Standardization." Panel members (left to right) are R. E. Tobin, S. R. Jepson, Mr Grieve, H. A. Williams, H. W. Christensen, R. D. Kelly.*

H. W. Christensen, *U. S. Steel, and S. R. Jepson, Eitel-McCullough, discussed how standards reduce company costs and aid production.*

Civil engineers *Robert E. Tobin and Harry A. Williams exchange views on use of standards for cost improvement in building.*

Stanley R. Jepson *told how his company uses standards for substantial savings.*

Airline engineers could prevent many of their operating problems by participating more actively in standards activities, declared R. D. Kelly, superintendent, Technical Development, United Air Lines, Inc, San Francisco. They would thus also help in developing better specifications, because few design engineers know the day-to-day operating problems as well as they do, he said.

A standards conference not only results in specifications, it is also a means of communication and education, Mr Kelly pointed out. For example, airline shops spend more manhours on a piece of equipment than are involved in the initial manufacture of the item. This should be considered in developing and selecting standards, he pointed out. In its normal life, equipment will be installed and removed from the aircraft a great many times, often in difficult places. Then it must be transported to the shop where it will be tested, disassembled, inspected, repaired (and oftentimes modified), reassembled, tested, and stocked. Eventually it is reinstalled in the airplane for further service. Therefore, standards should make provision for fittings and attachments that permit quick and easy installations; concentration of mass for minimum use of space; elimination of excess metal and materials; elimination of sharp corners, disassembly and assembly features that are obvious and amenable to ordinary shop facilities; design of parts to make incorrect assembly or reversed hookups impossible.

Mr Kelly particularly acknowledged the important work being done by the American Society for Testing Materials in development of civil aircraft turbine fuel specifications.

Standards and specifications made possible development of the standard concrete block, one of the most economical basic building materials on the market, said Robert E. Tobin. Mr Tobin is civil engineer, Portland Cement Association, Los Angeles, California.

He pointed to the fact that concrete, one of the oldest construction materials, has assumed a new look in the last few years. Precast and prestressed concrete were born from the need for more economical structures, he said. Today it is possible to produce concrete with compressive strengths in the range of 5000 to 7000 lbs per sq in. in three days. He called attention to ASTM standards approved as American Standard covering ingredients used in concrete. Use of standards gives an engineer knowledge of the performance of tensioning elements, assuming an adequate prestressing element, and also a choice of competitive products, he said.

Manufacturers of steel forms are cooperating with prestressing plants to produce standard forms to meet a large variety of uses, he pointed out. Standard designs for prestressed concrete bridges have been prepared by the U. S. Bureau of Public Roads that may make it possible for prestressing plants to carry the standard bridge forms as regular equipment.

R. A. Fuller *told how du Pont is updating design practices.*

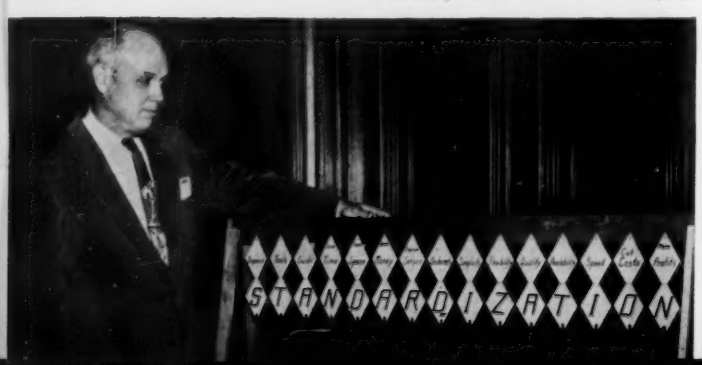
Speakers *at the session on Purchasing, Engineering, and Design (left to right), E. O. Haymond, Harlan E. Cross, Carl M. Wilensky, and D. F. Engstrom.*

Partnerships in Standardization:
PURCHASING, ENGINEERING, AND DESIGN

Sponsored jointly by Standardization Committee, National Association of Purchasing Agents, and the ASA Company Member Conference. Chairman: D. F. Engstrom, development supervisor, Cutler-Hammer, Inc, Milwaukee, Wisconsin. Part I of this session was on More Effective Buying Through Standardization.

Two unusual features characterized the part of this session on More Effective Buying Through Standardization. Assuming that he had been transported to Mars, E. O. Haymond, purchasing agent, Shell Oil Company, Portland, Oregon, found that many of his friends had preceded him there. They were all men who had been active in standards work in the National Association of Purchasing Agents. Mr Haymond is western vice-chairman of the NAPA Standardization Committee. His friends had already improved the efficiency of living in Mars by putting standards into effect. Mr Haymond found in Mars, he said, a large sign reading: Organize; Tools; Guide; Save Time; Save Space; Save Money; Improve Service; Uniformity; Simplicity; Flexibility; Availability; Speed; Cut Costs; Make Profits. All added up to STANDARDIZATION.

E. O. Haymond *with his Mars display.*



The second feature was a film strip prepared by the Northern California Purchasing Agents Association and presented by Carl M. Wilensky, standardization chairman of the Association. Mr Wilensky is purchasing agent, Ames Harris Neville Company, San Francisco, California. The film showed ways in which different companies had used standards and the savings that had resulted. The film is available to any interested group, Mr Wilensky said.

One way to sell top management on the value of setting up purchasing standards is to demonstrate that such a program saves the company money, Harlan E. Cross, purchasing agent, United States Pipe & Foundry Company, Birmingham, Alabama, said.

Elaborating on how to sell management, Mr Cross listed the steps as follows: (1) on the basis of experience of other companies, (2) through the opinion of experts, and (3) most important of all—on the basis of actual experience with specific problems worked out in one's own company, and the reporting of cost reductions made thereby.

He said considerable guidance for setting up a standardization program could be obtained from the National Association of Purchasing Agents' *Standardization Manual.*

"Just as standardization works to aid purchasing," Mr Cross stated, "an alert purchasing department can assist in spotting symptoms and conditions within a company where the lack of standardization is contributing to confusion, inefficient buying, and loss of profit. Purchasing executives, because of their daily contact with many of these problems, are the logical people

to spot them and call management's attention to them."

According to Mr Cross, the more readily detected ailments are (1) excessive stocks of materials and replacement parts being purchased, (2) slow movement and stagnation of certain stock items, (3) time lost in often fruitless searches for items which alone will serve a need, (4) private stocks accumulated by departments, (5) too great a number of varieties and sizes of materials, (6) excessive number of trade-named items being purchased rather than on a specification basis, (7) lost motion and confusion in the requisitioning and purchase of materials, (8) too great a number of specially designed items being purchased, and (9) lack of uniformity in the terminology used to describe the items.

Use of standards is a keystone in the du Pont Company's efforts to eliminate outdated practices in designer and drafting functions, said Ralph A. Fuller. Mr Fuller is division engineer, Design Division, Engineering Department.

Speaking on Part 2 of this session, "Updating Design Practices for Tomorrow's Engineering," Mr Fuller outlined briefly the division organization, its scope and size, and its relationship to the engineering department and to the company. The company's standards program is resulting in a return of about $4.00 for every dollar spent on standards activities, he said.

Mr Fuller foresees, during the next twenty years, a population increase of 35 percent; construction expenditures in terms of 1947 dollars increased by 2½ to 3 percent per year; national production of electrical energy more than double; national research expenditures three times what they are today; and chemical industry growth in terms of sales three to four times its present size.

Numerical deficiencies in technical manpower now and in the future must be solved by making better use of the men on hand, Mr Fuller said. Clerical personnel and even machines must be used to release designers and draftsmen for more responsible and challenging work. Every potential source of technical manpower must be tapped more extensively and used more efficiently to relieve the shortage.

Since December 1953, du Pont has had a seven-member practices committee composed of working designers, one full-time coordinator, an average of two full-time assistants, and 24 subcommittees of section leaders and designers working on the "minimum adequate design" concept. Their job was to determine minimum adequate requirements for drawings without reducing the effectiveness of construction and shop workers.

Application of over 1,500 du Pont engineering standards is essential to the "minimum adequate design" concept at du Pont. During 1956, designer and drafting forces, both du Pont and subcontractor, used standards over 370,000 times at a reported savings of about $2½ million. In terms of designer and drafting manpower, this saving is equivalent to 140 fewer technical people.

Company Member Conference Elects

James J. Welshman, chief engineer, Grinnell Corporation, Providence, R. I., was elected chairman of the Company Member Conference at a meeting of the Administrative Committee November 14. The committee met during the Eighth National Conference on Standards at the St Francis Hotel, San Francisco. J. M. Goldsmith, chief inspector, Division Armco Steel Corporation, The Sheffield Steel Corporation, Kansas City, Mo, was elected vice-chairman.

New members of the Administrative Committee for the coming year are W. G. Waltermire, The Lamson and Sessions Company, Cleveland, Ohio; F. C. Ewert, Deere and Company, Moline, Illinois; and D. F. Hollingsworth, E. I. duPont de Nemours and Company, Wilmington, Delaware.

In presenting a certificate of appreciation to W. C. Cadwell, retiring chairman, for his services to the CMC, ASA Managing Director G. F. Hussey, Jr, said: "CMC is a peculiar organization. It is the only means by which the companies that support ASA can have a voice in the affairs of the Association. We rely heavily on the leadership of the Administrative Committee for guidance as to what is of concern to the company members of ASA."

James R. Welshman, *Grinnell Corporation, newly elected chairman of the Company Member Conference, shakes hands with the new vice-chairman, J. M. Goldsmith, The Sheffield Steel Corporation. W. C. Cadwell, retiring chairman, offers congratulations (center).*

W. C. Cadwell, *right, shows D. F. Engstrom, certificate presented to him by ASA.*

Company standards *were discussed by S. H. Watson, RCA; W. C. Nidever, Shell Oil Company; H. G. Arlt, Bell Telephone Laboratories, Inc; and J. J. O'Farrell, Jr, IBM.*

STANDARDIZATION IN YOUR COMPANY

Sponsored jointly by the Company Member Conference and the Standards Engineers Society. Chairman: Herbert G. Arlt, material specifications engineer, Bell Telephone Laboratories, Inc, Murray Hill, N. J., and president, Standards Engineers Society.

Standard methods of measurement promulgated by the American Petroleum Institute give oil company management a quick and accurate check on the amount of loss or shortage resulting from handling crude oil and its products. This makes it possible to determine the reasons for such shortages in time for corrective action, said W. C. Nidever, Shell Oil Company, Los Angeles, California. These standards are used in the custody transfer of some $40 to $50 million worth of crude oil per day, he explained.

Because accurate measurements are of vital importance to oil company managament, API committees have been studying the crude oil measurement problem for 30 years, he said. Currently 18 working committees are investigating ideas for better methods of measurement, with the purpose of improving accuracy.

Electronic computers and data processing equipment are starting a revolution in American business that will ultimately reach into the operations of every company and every commercial enterprise, said S. H. Watson, manager, Corporate Standardizing Division, Engineering Services, Radio Corporation of America. A big standardizing job is ahead involving not only the electronic equipment and its components, but a complete new look in business methods standards as well, he said. The fantastic growth of the electronics industry is largely due to its practice of developing new standards every step of the way and its alertness in retiring to obsolescence those standards that are outmoded due to technological progress, Mr Watson declared.

Electronic companies, colleges, universities, and governmental agencies apply the full or part-time effort of some 5000 technical people to standardization for the electronics industry, he said. Part time of many of the industry's top technical executives, scientists, and engineers is included. Salaries and other expenses applicable to standardization total well in excess of ten million dollars annually.

Electronics industry management men have had close association with major cost savings due to standardization and major excess costs due to lack of standardization.

The electronics industry cooperates closely in the work of the American Standards Association, the International Organization for Standardization, the International Electrotechnical Commission, the American-British-Canadian (ABC) unification program, and CCIR, the International Radio Communications Commission. USA participation with the first three is handled through the facilities of the American Standards Association. CCIR participation is controlled by the State Department.

Mr Watson called attention to the work of the Institute of Radio Engineers and the Electronic Industries Association, both of which are working at the national level exclusively with standardization requirements peculiar to the electronics industry. He also called attention to the work in this field of the National Electrical

C. L. Bragaw, *National Bureau of Standards, Boulder, Colorado (right), discusses Sandia Corporation's technical standards with Willis MacLeod, General Services Administration.*

Manufacturers Association, the Joint Electron Tube Engineering Council, and the Department of Defense, and the General Services Administration.

In RCA itself standards are designed as tools of industrial management and applied on a business basis with pay-off a dominant factor. Standardization is a responsibility of the vice-president, product engineering. The standards established in the company's main plant are also in operation in other RCA plants in the USA and in the plants of the RCA International Division and its affiliates in Canada, Argentina, England, Australia, France, Spain, Italy, Greece, and Japan.

A new type of standards program has been developed at IBM, declared John J. O'Farrell, Jr, manager of standards, International Business Machines Corporation, Poughkeepsie, N. Y. A new data classification system makes it possible to arrange material in the Standards Book for the benefit of the user and also to meet the requirements of mechanized data processing. Greater emphasis is now placed on assisting those who are looking for information.

Electronic data processing equipment is now applied to the problems of preparing standards, through cataloging, analysis of trends, and prediction of future requirements. And the standards department is now set up in separate sections but as a coordinated team to handle information processing, standards development, and applied standardization.

The work operates under an IBM Standards Advisory Board consisting of the IBM Director of Standards, the managers of all standards departments in the company, and the Director of Manufacturing Engineering, with the addition of representatives from other areas of the company as the need arises.

In addition, a program to project future requirements and one for analyzing the value of the standards program have been set up.

PROFITING BY STANDARDS IN THE RAILROAD INDUSTRY

Sponsored by the Association of American Railroads. Chairman: P. V. Garin, engineer of research and mechanical standards, Southern Pacific Company, San Francisco, California.

"Can my company's purchasing and using dollar be made to go further by using standardization to the fullest extent as one of the tools of purchasing?" This question was asked by M. C. Nystrom, General Purchasing Agent-System, Southern Pacific Company, San Francisco, California. The answer, he said, is yes—there is money to be made and saved by an aggressive and enlightened standardization campaign.

As examples of the railroads' pioneering in standardization he called attention to the free interchange of freight cars made possible by the standard gage of track, and to the fact that repairs can be made by the line on which cars are located, regardless of ownership. Standard materials are used, he said, taken from the store stocks of the railroad by which repairs are to be made.

Currently, Mr Nystrom said, Southern Pacific and its neighbors are making progress on standardization of frogs, switches, and other track materials, to obtain the benefits of interchangeability and lower cost. Progress is also being made in standardization in the field of forest products, bridge timbers, lumber, and particularly in heavy timbers. Here, interchangeability between roads with respect to sizes and grades permits carrying lower emergency stocks and gives all lines in an area the benefit of better group emergency protection.

Mr Nystrom outlined Southern Pacific's own standardization program. A System Standardization Committee supervises the program. Representatives from the other System Lines are included so that conditions peculiar to any one line can be given consideration.

"Standardization must be worked at continuously," Mr Nystrom concludes. "It fails when a standard adopted is not subject to review and re-evaluation in the light of changed conditions."

The United Class I railroads are buying on average about 200,000 different items, worth $2.8 billion, each year, declared W. M. Keller, assistant vice-president, Operations and Maintenance Department, Association of American Railroads, Chicago, Illinois. Standardization is one of the most important methods whereby the numbers of articles can be reduced and their cost lowered, he said. A. S. Pedrick, Southern Pacific Company, presented Mr Keller's paper in his absence.

As one of the greatest benefits from standards in the railroad field, Mr Keller cited the reductions made in inventories of parts needed to maintain cars and locomotives. "There are about 16,000,000 freight car journal bearings in the United States, but the standard design of bearing can be used on any one car," he said.

Mr Keller traced the origin of the Association of American Railroads back to the need for standards, and to the earliest railroad organization on a national scale, the Master Mechanics and Car Builders Associations formed soon after the Civil War. A central agency was essential in order to obtain the standards the railroads needed, he said.

Now, the mechanical division of AAR is responsible for problems relating to cars and locomotives, and the engineering division handles matters related to roadways, buildings, bridges, and other fixed structures. Both develop and maintain standards.

Mr Keller described how the AAR standards are developed and called attention to their use of standards already in effect, such as American Standards for screw

A session on railroad standards *brought together A. S. Pedrick, representing AAR; P. V. Garin, Southern Pacific; M. C. Nystrom, Southern Pacific; Frank R. Woolford, Western Pacific.*

threads, nuts, rivets, pipe fittings, iron pipe, steel shapes, and paints. ASTM standards for materials are used wherever applicable. Superimposed on these standards are AAR standards that are necessary because the part is peculiar to railroads.

He cited the new type of cast steel wheel as an example of how standards are kept up to date. After investigation of the new wheel a standard for it has been developed as an alternate standard. As techniques improve, new standards are developed, he pointed out.

Most engineers concerned with maintenance of road property believe that research promotes standardization, declared Frank R. Woolford, chief engineer, The Western Pacific Railroad Company, San Francisco. Mr Woolford is also vice-president, American Railway Engineering Association, San Francisco. Well-planned and comprehensive research will serve to exhibit all the facts so that differing views may be crystallized into one acceptable design or specification, he explained. He called attention to the industry's experience with rail sections as an example. One producer maintained 150 different rail sections and 24 different weights varying from 65 lb to 152 lb per yard. After research 75 percent of the rail now rolled is limited to 3 or 4 sections, and not over 15 patterns are in use today of the former 300 tie plate designs.

Although some railroad maintenance men find a variety of reasons why in their opinion standards should not be applied, the trend today is toward accepting an over-all plan of standards, Mr Woolford declared. At present this appears to be on a sectional or area basis. The South Central group is near agreement on standardization of certain track material and turnout plans. This will permit a manufacturer to plan in advance for expected needs and to utilize off-peak periods to stockpile assemblies. The far western and southwestern groups are establishing similar group standards of track materials.

Mr Woolford credited the committee activities in AREA for this improvement in the standards program.

INDUSTRIAL STANDARDIZATION FOR DEFENSE

Sponsored by the American Ordnance Association. Chairman: Colonel Ralph L. Goetzenberger, Minneapolis-Honeywell Regulator Company, Washington, D. C.

"In decentralized manufacturing operations standardization offers the only dependable means of assuring perfect component fit and interchangeability without reworking." This was the opinion of H. C. Biggs, manager, Physical and Electrical Standards Department, Sandia Corporation, Albuquerque, New Mexico. Mr Biggs explained that at the widely separated facilities of his company all calibration and inspection tools are standardized. "If this were not so," he said, "a good deal of unnecessary rework of the product of waiving and changing of specifications would result. This is costly in both time and material."

In 1953, Mr Biggs told his audience, the Atomic Energy Commission authorized the Sandia Corporation to set up a system of standardization that would, within the AEC complex, achieve uniform measuring results to meet the standards of the National Bureau of Standards.

He pointed out that the premium on standardization and interchangeability is unusually great in the weapon business because considerable economic gain and time advantages result if the atomic weapon stockpile can, by the use of kits, be kept modernized.

"This can be assured," Mr Biggs said, "only when the instruments, gages, and testers used for determining conformance of product to print are calibrated with adequate standards."

In establishing the Special Weapons System of Standardization, calibration of the working tools was based on a single group of system primary reference standards. The reason for adopting one primary system rather than multiples was that multiple primaries lead to confusion and frustration, because it is virtually impossible to assign a cause for lack of agreement in measurement.

"The rigid control needed for a high degree of accuracy throughout the standardization system is at best difficult to attain," he said. "Control is simplest and, therefore, best from both the administrative and the technical standpoint if a single reference, as well as a single administrative system, is used."

A single primary also makes it possible to standardize the techniques of using secondary reference standards, because the procedures prepared by the primary laboratory are used by all secondary laboratories. Prin-

cipal function of the primary laboratory is to have its standards compared to national standards and then certify the reference standards maintained by the secondary reference laboratories.

Nationally recognized dimensional standards, such as the American Standard for Preferred Limits and Fits for Cylindrical Parts, are dictionaries for designers that help smooth the path from dream to reality—from development design to shop. This was pointed out by Colonel W. J. Darmody, The Sheffield Corporation, Dayton, Ohio.

Such standards help to attain tool economy in the model shop and lead to design features and sizes that are compatible with commercially available tooling, cutting down the time required for making test models or lots, Colonel Darmody declared.

Discussing standardization as it affects development designers, he said: "In some instances, sketches with only fragmentary dimensional information may be the only data forwarded to the model shops. Here a standard can be an important aid to the shop." In using the "standard," the model maker can derive tolerance information that should be a part of every dimension. The relation of tolerance to (1) size, (2) machining capability, and (3) dimensional functions, are all available. These data help to reduce stalemates between development design and the shop.

According to Colonel Darmody, extremely close tolerances pose another problem that only accurate standards can help to solve. This has to do with modern design requirements.

"Developments of today such as gyroscopes or liquid fuel injection components," said Colonel Darmody, "certainly strain the limits of human achievement in machining and measuring accuracy. The demand for closer tolerances may put a strain on relations between development design and the shop. Such strain really results from a lack of knowledge of measurement and machining capabilities, or possibly from a designer's distrust of proper dimensional discipline in the manufacturing area."

In reference to closer integration of design knowledge he further stated, "American Standards such as the B1 Series for Threads and B4.1 for Cylindrical Fits are fine textbooks for educating both designers and shop men in the realities of tolerance."

The phrase "dimensional tolerance" has a much different meaning today than it did in the days of the micrometer, vernier, or mechanical amplifying measuring devices. Most of today's shops depend on modern electronic or pneumatic amplifying devices, and measurements are so precise that it is necessary to take them in an atmosphere so clean that even a surgeon would approve of it.

"Tomorrow's products, being more intricate and precise than ever before, will run only if they have been based on standard measures referred to at each stage of development," Colonel Darmody said.

When incorporated into a process control system, digital computers perform similarly to an operator who follows a very complicated set of instructions, which direct him to (1) make many arithmetic calculations, (2) "read" many process instruments, and (3) adjust many intermediate variables automatically, continuously, and without error prejudice.

This statement was made by Dr M. Phister, Jr, head, Industrial Control Systems Section, The Ramo-Woolridge Corporation, Los Angeles.

Explaining the many control functions which digital computors could supervise to advantage in the process industries, Dr Phister said, "They can interpret instrument readings, calibrate control instruments, insure proper start-up and shut-down operating sequence, be on the lookout for instrument or process failures, and can collect and interpret process data for later study by engineering and research staffs."

Control systems incorporating these "brains" will become as widely used in the process industries in the next five years as business data processors have become in the past five, declared Dr Phister.

"If this is so," said he, "it will be true for only one reason: such control systems pay for themselves by virtue of the improvements they make possible in process operation. The improvement will, in general, come from (1) increased production through better control, (2) improved quality, or (3) reduced operating costs." The end result would be a better product or increased profits.

The most interesting implication of all, however, is the prospect of using digital control computors in the control of presently uncontrollable processes. Products are now made in plants which could not possibly have been operated 20 years ago without modern instrumentation. Likewise, 20 years hence there will be processes run by digital control systems, which cannot be run today using the conventional methods.

A new standard dimensional system for automation requirements and a proposed standardized punched tape for control of machine tools were cited as important steps toward realizing the goals of automation. "The logical extension of our industrial system culminates in an automatic plant, and automation will require a minor revolution in standards," said Cyril P. Atkinson, assistant professor of engineering design, University of California.

The "Standard Dimensional System for Automatic Requirements," developed by the Electronic Industries Association (EIA), formerly known as Radio-Electronics-Television Manufacturers Association (RETMA), and approved in June 1957, covers the establishment of dimensional systems and nomenclature to serve as a guide in the coordination of equipment design, component design, and design of machinery for automatic manufacture.

"The standard provides a basic module of 0.025, according to which electronic units with printed circuits

Colonel W. J. Darmody, *H. C. Biggs, and Colonel Ralph Goetzenberger discuss standards for defense.*

J. J. Dunn, *Office, Assistant Secretary of Defense, and J. L. Hayes, U. S. Naval Ordnance Laboratory, listen for questions at the defense session.*

Automation *and electronics were given special consideration by (left to right) Dr Montgomery Phister, Jr, W. Wagenseil, and Dr Cyril P. Atkinson.*

are already being manufactured," Mr Atkinson said.

Another standard developed by EIA, and presently in the approval stage, will be the first industry punch-tape standard.

"Initially designed for machine tool control purposes, the proposal for geometric dimensions and tolerances may be generally described as an all-purpose one-inch wide tape with capability for a maximum of eight levels or channels."

Several other agencies besides EIA have also been preparing standards for automatic control, computers, data processing, and programming, the author pointed out.

Among the standards work named by Mr Atkinson were "Automatic Control Terminology" of the American Society of Mechanical Engineers; "Standards on Electronic Computors" of the Institute of Radio Engineers; and "First Glossary of Programming Terminology" of the Association for Computing Machinery.

Sectional Committee C85, operating under the procedures of the American Standards Association, is preparing its "Automatic Control Terminology" for approval as an American Standard.

A company standardization program in the military electronics industry has achieved a reasonable amount of interchangeability of parts, an 80 percent reduction in the work load of quality testing, and a greatly reduced parts inventory. This was reported by W. W. Wagenseil, Hughes Products, Culver City, California.

"This company program provides some of the savings which national standards accomplish in many other industries, but not as yet in the military electronics industry where particularly complex problems prevail," said Mr Wagenseil.

Even though the electronics industry is the fifth largest in the United States, with a sales volume of over $10 billion a year, electronics standards account for less than two percent of the 1,700 American Standards, Mr Wagenseil stated.

"Hundreds of useful American Standards are not being produced," he said. Some of the reasons mentioned by the speaker for the lack of standards in the electronics industry are: (1) difficulty of defining minimum quality levels; (2) high costs of quality tests; (3) "sophistication" of electronic parts which cannot be made to the "least common denominator"; (4) large demand for non-standard parts by one customer which may exceed total demand for standard parts of all other customers.

"In order to overcome this lack of industry standards," Mr Wagenseil said, "we have written six four-inch thick volumes of detailed procurement specifications to define the parts we need. These specifications supplement the 119 military specifications listed in ASESA Bulletin 100. Our 60-odd people working on components are busy full-time finding, evaluating, and defining the new parts that are required and that can be purchased.

"Thus at considerable expense and effort, we have achieved a reasonable degree of standardization and interchangeability within the company."

In addition, the Hughes Products Company has a vendor quality certification program which rewards vendors who will make tests and certify to the quality of their components. This has reduced the company's work load in the receiving, inspection, and test departments by 80 percent, Mr Wagenseil said.

Finally, the company's parts inventory has been greatly reduced through use of a flexible preferred parts

list and by encouraging engineers through ready stock and a great deal of information about the parts stocked to use the parts on the preferred lists rather than specials.

Explaining that individual needs of the various services in the Department of Defense have contributed to variations in drafting practices, J. J. Dunn called attention to recent developments to encourage greater standardization. Mr Dunn is staff director of the Standardization Division, Office of Assistant Secretary of Defense (Supply and Logistics), Washington, D. C.

A Standard Drawing Practice Committee was created at the Department of Defense level by the Assistant Secretary of Defense (Supply and Logistics) last July, Mr Dunn said. Its functions are to investigate existing drawing and general design practices in the Defense Department and in industry, develop a program for accomplishing standardization of drawing and general design practices, and study the implementation and effectiveness of existing standards for uniform drawing practices. It will also recommend improvements where these are needed. Representatives of technical societies and other industrial organizations may serve in a liaison and advisory capacity to the committee.

Mr Dunn pointed out that Military Standard 19 for welding symbols is identical to American Standard Graphical Symbols for Welding, Z32.2.1-1949; MIL-STD-12 on abbreviations for use on drawings is very similar to American Standard Z32.13-1950. The DOD participates in the work of ASA Committee Y14 and collaborates with industry in the ABC conferences.

VALUE OF STANDARDS IN CONSTRUCTION SPECIFICATIONS

Sponsored by the Construction Specifications Institute. Moderator: Vincent G. Raney, American Institute of Architects, Architect, San Francisco, California.

Standard methods and definitions which will mean the same in specifications prepared by one office as they do in specifications prepared by another are the aim of the Construction Specifications Institute, declared Norman Hunter, the Institute's president. He pointed out that standards should not restrict the initiative of the professional architect or builder, however. On the other hand, he said, their purpose is to make construction specifications completely intelligible to all. The Institute's National Technical Committee has implemented a six-point research program to collate and document informative background material for specifications writers, and Mr Hunter foresees possible development of an American Standard on nomenclature in the near future.

Stanton Willard, principal architect, Standards Section, California State Division of Architecture, introduced Rolf T. Retz. Mr Retz is a specification writer helping to prepare a manual of architectural and construction standards to be issued by the Division of Architecture. Mr Retz reported that the construction specifications for the larger buildings are of three separate types—for general work, mechanical work, and electrical work. Other specifications may be included for elevator work, food service equipment, and grounds improvement work. These are intended as a guide toward uniformity for the architects and engineers who design and plan the construction of state-owned buildings and other facilities.

Standards are being extensively used in these building specifications, Mr Retz pointed out. Without them, he said, it would be an almost impossible task to write construction specifications at all. They provide a vast source of factual, technical information; define quality; present methods for checking quality; constitute the most reliable authority; insure competition; eliminate the "or equal" clause; and provide means for objective administration of construction contracts.

Full economies of building with the new precast, prestressed concrete can only be realized when columns, girders, beams, and other members are standardized, said Jack Streblow, sales manager, Basalt Rock Company, Napa, California. Standardization will make it possible for manufacturers to equip themselves with permanent steel, concrete, or plastic forms that may be used over and over again, he explained. The Basalt Rock Company has already started to develop stand-

Building officials, *architects, and contractors joined in the session on construction specifications. Left to right: Jack Streblow, Albert LeRoy, Rolf T. Retz, S. Willard, V. G. Raney, Norman Hunter, J. P. Silvestri, Hal Colling.*

ards by establishing a 4 ft wide double tee floor and roof slab, spanning up to 50 ft for roof loads. This is designed to the 8 in. module that was adopted successfully 20 years ago by the masonry industry. The State of California Bridge Department has been trying to develop standards for precast concrete used in bridge construction giving manufacturers latitude in choice of prestressed methods without sacrificing control of the quality of finished materials, Mr Streblow said. He pointed out specifically how standardization benefits in the manufacture, design, construction, and occupancy of a structure using prestressed concrete.

Construction can be simplified and costs reduced substantially by using standards in the design of a structure to keep size and shape of members uniform, declared J. P. Silvestri, chief engineer, Charles L. Harney Company, San Francisco. Uniformity in design is especially important today, he pointed out, because the trend is toward increased costs in the actual construction—the form work, pouring of concrete, etc.

Standards are also of value to the industry, he said, because they provide the designer and contractor with a common language, thus reducing the time needed to prepare estimates and resulting in more realistic bids.

The use of standards can eliminate contradictions, incorrect references, omissions, and ambiguities in construction specifications and thus can solve many of the estimator's difficulties, said Albert Le Roy, Le Roy Construction Services, San Francisco. Architects, he pointed out, must realize that in this mechanical age specifications cannot be handled as they were in our grandfather's time when the main building components were relatively few. Today we have thousands of items and, consequently, standard specifications are a must. He also emphasized that to be effective these specifications should be prepared by experts and that they must be kept up to date.

Reference standards are necessarily an integral part of any building code, declared Hal Colling, managing director of the International Conference of Building Officials, whose Uniform Building Code has been adopted by 900 cities in 40 different states. The problem, he said, is to secure these standards in a form for easy reference and at a price the building official is willing to pay. The Conference has solved this problem in recent years by publishing in one volume excerpts of the standards referred to in the Uniform Building Code. Mr Colling presented the reasons for adoption of this system and concluded with the suggestion that mutual cooperation between the International Conference of Building Officials and the standards-writing organizations in the writing and editing of standards will help the former to provide the construction industry and building officials with building codes and standards that will be legal and easy to adopt.

HOW STANDARDS HELP THE MOTION PICTURE INDUSTRY

Sponsored by the Motion Picture Research Council and the Society of Motion Picture and Television Engineers. Chairman: R. A. Isberg, Senior Engineer, Ampex Corporation, Redwood City, California.

Uniformly high level in the technical quality of pictures and sound reproduced in theaters throughout the world can be maintained because the makers and users of the technical equipment are actively developing uniform test films and test procedures. This was explained by Boyce Nemec, consulting engineer of New York. "Moving pictures whose profitable appeal to the movie-going public depends upon their utter individuality are, at the same time, probably the most completely standardized industrial product circulating through the channels of world commerce," he said.

All standards developed and used by the American motion picture industry go through the American Standards Association, he explained. They range widely in subject matter, covering dimension of film and equipment, terminology, and procedures for technical test. Their prime function is to provide assurance of interchangeability of the motion picture films manufactured in the United States and thus to permit the world-wide marketing of entertainment feature films and other types of motion pictures produced in this country.

The Society of Motion Picture and Television Engineers and the Motion Picture Research Council are active in providing test film. Television and motion picture test film is available to anyone who cares to check the quality of his film.

The first standard prepared by the Society of Motion Picture Engineers (now the Society of Motion Picture and Television Engineers) and approved as American Standard is dated September 20, 1930, said Axel G. Jensen. Mr Jensen is director of Television Research, Bell Telephone Laboratories, Murray Hill, N. J., and engineering vice-president of the SMPTE. Recently, from January 1956 to April 1957, 49 separate standardization actions were originated within the technical committees, resulting in 12 approved American Standards, and 22 in final processing. As of April 1957 there were 89 American Standards for motion pictures. The time-consuming procedure through which these standards go before approval assures general acceptance and approval of the entire industry, Mr Jensen declared.

The international committee on motion pictures, ISO/TC 36, working under the secretariat of the American Standards Association, has completed seven draft recommendations that have been approved as ISO Recommendations. Ten more are being circulated as draft recommendations to the ISO Member Bodies. Dr Dean

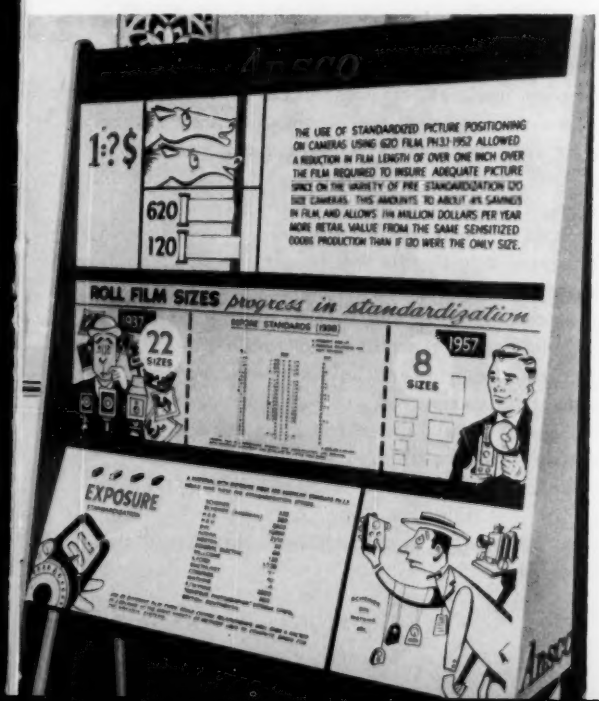
Standards *give motion pictures a world market, said speakers (left to right) Axel G. Jensen, Ross H. Snyder, Boyce Nemec, W. F. Kelley, and R. A. Isberg.*

White, E. I. du Pont de Nemours & Company, has accepted the chairmanship of this international committee and will preside at its 1958 meeting at Harrogate, England.

Informal standards set up for the interchange of tapes among approximately 100 "Videotape" recorders were described by Ross H. Snyder, Ampex Corporation, Redwood City, California. Mr Snyder is manager of the San Francisco Section of the Society of Motion Picture and Television Engineers. RCA and Ampex have entered a patent exchange agreement and have announced their intention of establishing compatibility in

Informal discussion *of motion picture equipment used to demonstrate test film program of the motion picture industry (left to right) W. F. Kelley, Axel Jensen, Boyce Nemec, and S. David Hoffman, electrical engineer, ASA.*

Ansco exhibit *dramatized the American Standards on Photography.*



television transmissions both in color and monochrome, Mr Snyder announced. RCA will market a magnetic television recorder in the near future designed to be compatible with the Ampex machine, he said.

Due to the establishment of the informal standards described by Mr Snyder, he said, the commercial user of the Videotape equipment can "be assured of industry-wide interchangeability of tape-recorded television programs among machines" while at the same time being assured of "the benefits of further improvement, brought about through free competition upon the ground-rules of sensible standards."

W. F. Kelley, secretary-treasurer, Motion Picture Research Council, Hollywood, California, discussed the development of standards covering materials and equipment used in producing and exhibiting motion pictures. The industry, whose product must allow full play to the artistic element, finds standards make possible a better job.

Standards are gaining *importance in technical publishing, said panel members G.A. Floyd, George Estill, D.R. McDowell, and H.P. Westman (left to right).*

STANDARDIZATION FOR TECHNICAL COMMUNICATION

Sponsored by the Technical Publishing Society. Chairman: George Estill, Maintenance Regulations, United Air Lines, San Francisco, California.

People are essential components of a weapon system, said D. R. McDowell in his discussion of standardization of technical manuals for ballistic missiles. Mr McDowell is manager of technical services, Guided Missile Research Division, The Ramo-Wooldridge Corporation. Therefore, he said, people are considered to be part of the "package" — equipment, skilled people, and technical data — that make up a weapon system. These three elements must be properly designed to fulfill rigid operational requirements, he pointed out. For greatest efficiency of personnel, technical manuals for ballistic missiles will be standardized on the basis of two new concepts. These are, first, pocket-size manuals for easy reference in the field; second, job orientation rather than equipment orientation of the manuals. Job-oriented manuals describe one major assignment of an operator or maintainer; equipment-oriented manuals describe one piece of equipment and the functions required for its operation and maintenance. Manuals on the Atlas, Titan, and Thor will comprise the largest single technical manual program ever attempted, Mr McDowell said.

The trend is to reduce graphical symbols to the minimum number of lines to make drafting simple and to avoid fine detail that will be lost or will fill in when drawings are reduced in size by photographic processes. Harold P. Westman, editor, Electrical Communication, International Telephone and Telegraph Corporation, New York, made this statement in his talk on electrical symbol standardization. Mr Westman is chairman of the ASA Graphic Standards Board. As a member of the Association of Technical Writers and Editors, he represented the association on the panel.

Graphical symbols started as pictures of structures and many still retain much of this aspect, he said. However, by emphasizing the function rather than the structure of a device, considerable simplification in symbols has been made in recent years. Much of this has come from leaving out structural details that did not distinguish one design from another with regard to the performance of the devices. Following this principle, there is no position for a symbol that is correct or incorrect.

Referring to letter symbols, Mr Westman said that a proposed American Standard on Greek letters for use in mathematics is in process, identifying those Greek characters that differ sufficiently from the Latin letters to be useful when mixed with them.

G. A. Floyd, District Director of Publications, 12th Naval District, San Francisco (Mare Island), presented the paper prepared by A. N. Spence on the Navy's standardization work in the production of publications. Mr. Spence is director of the Publications Division, Administrative Office, Navy Department.

"We regard effective standardization as an essential part of sound publications management," Mr Spence said. He considers that the standardization program must cover intermediate preparation and production processes; printing plant and duplicating facility management; equipment, supplies, and paper stocks used in plants and facilities; specifications for production or preparation of publications by both Government and commercial suppliers; and distribution of publications.

The initial target areas will be (1) simplification of all Navy publications, including forms; (2) standardization of writing, editing, illustrating, and other preparation services, and of printing and binding; and standardized procurement and inventory management of equipment and paper stocks.

Mr Spence called for work on standards where none exist today — "readability" and "understandability," typographic standards for technical manuals, and organization of materials. He hopes to achieve significant savings, eventually, he said, through engineered performance standards.

The ASA Modular Awards

Outstanding contributions toward the advancement of Modular Measure were again recognized this year. Five awards were made for contributions in design, education, production of modular products, construction procedures, and for promotional activities.

Andrew Place, *honored for construction procedures, heads his own firm as a home builder in South Bend. Known among his colleagues as "Mr Four-Square" for his insistence on building in conformance with the "perfect module," he received the award for his contribution to modular measure "not only as an ardent advocate of the adoption of its principles but also in their application to techniques of construction."*

William Demarest, *who received the award for education, served as modular coordinator in the national headquarters of The American Institute of Architects and is now director, Plastics in Construction, Manufacturing Chemists' Association. The award was presented for "his widespread dissemination of knowledge concerning the constructional advantages and economies inherent in the application of its principles."*

Neill Boldrick, *vice-president of the Acme Brick Company, Fort Worth, was honored for "leadership resulting in the widespread production of modular clay products." He has been a dollar-a-year consultant in the War Production Board and represented the structural clay products industry in various organizations.*

P. I. Prentice, *founder, editor and publisher of* House & Home *and vice-president of Time, Inc, received the award for promotion. His round table conferences have contributed toward advancement of modular measure as a solution to rising building costs. He was cited for "nationwide publicity in a widely distributed architectural magazine and the media of round table conferences."*

John R. Magney, *AIA, a partner with Magney, Tusler & Setter, Minneapolis, won the award for design. The award was presented for his contribution to the advancement of modular measure "through his early adoption, application, and promotion of its principles in the field of architectural design."*

Modular measure is the subject of American Standard A62.1-1957, Basis for the Coordination of Dimensions of Building Materials and Equipment. Committee A62 is sponsored by The American Institute of Architects, The Producers' Council, Inc, National Association of Home Builders, and The Associated General Contractors of America, Inc. This system provides for the use of a 4-inch module as the basic measurement for incorporation in the design and dimensions of new homes and buildings.

Plexiglas "Modules," *made available through the courtesy of the Manufacturing Chemists' Association, were presented to winners of the Modular Measure Award this year. Here, ASA President Hallowell hands the "Module" to J. R. Magney, honored for modular design.*

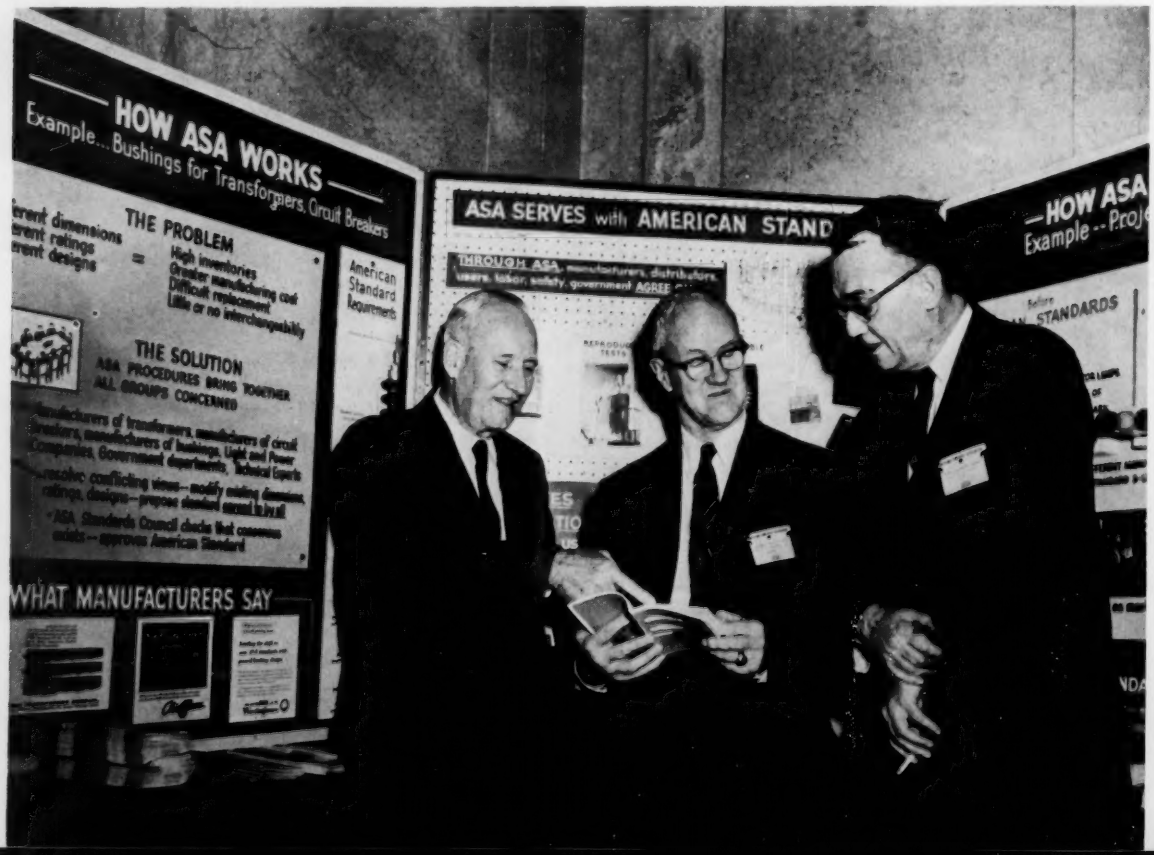
Mrs Arthur S. Johnson, *Mr Johnson (retiring as chairman of ASA Standards Council this month), and President Hallowell.*

The head table *at the Awards Dinner—G. F. Hussey, Jr; A. S. Johnson; Roy McDonald; Roger E. Gay; H. Thomas Hallowell, Jr; J. R. Townsend; S. H. Watson; Neill Boldrick; John R. Magney; Cyril Ainsworth. Mr Watson represented the Awards Committee.*

New ASA officers *announced at annual meeting are T. E. Veltfort, manager, Copper and Brass Research Association, elected chairman of Standards Council, and J. R. Townsend, Office of Asst. Secretary of Defense, elected ASA vice-president.*

At the reception—*Dr John Gaillard, Mrs G. F. Hussey, Jr, Roy McDonald, McDonald-Thompson, San Francisco, West Coast representative of Time, Inc, (who received the modular award on behalf of P. I. Prentice); and ASA President Hallowell.*

At ASA Annual Meeting, *Managing Director C. F. Hussey, Jr (center) announced staff changes. Cyril Ainsworth (left), retiring as Technical Director, becomes Deputy Managing Director January 1, 1958. J. W. McNair (right) becomes ASA Technical Director.*



New Standards Bodies Planned

A conference was held in Rio de Janeiro, Brazil, during the week of September 23, 1957, to develop recommendations for organizing national standards bodies in South and Central America. Cyril Ainsworth, technical director of ASA, reported the results of the meeting at ASA's annual meeting November 13. Mr Ainsworth had been one of the USA delegates.

The conference appointed a working committee which recommended fundamental principles for formation of standards institutes and emphasized the importance of standards laboratories to help insure compliance with standards.

The committee also recommended preparation of a glossary of equivalents of technical terms in four languages and recommended that standards be translated. The conference called on the Pan American Standards Committee to expand its activities to carry out this program.

Mr Ainsworth urged that all technical, industrial, and business groups concerned with inter-American trade decide whether this program will be important enough to them to support it financially as well as technically.

Published ISO Recommendations

The following 15 ISO Recommendations, received at ASA headquarters during the past summer, have been approved internationally, published, and are now available from ASA. Forty-two ISO Recommendations have been approved and published to-date. One hundred twenty-two more draft recommendations are in the process of being circulated to the Member-Bodies for comment and vote.

ISO Recommendation	*Date of Approval*	*Technical Committee in Charge*	*ASA Working Status*	*ASA Voting Record*
R12: Identification of Aircraft Pipelines	Feb. 1955	ISO/TC 20, Aircraft	Observer	Approval
R13: Cast Iron Pipes, Special Castings and Cast Iron Parts for Pressure Main Lines	March 1955	ISO/TC 5, Pipes and Fittings	Observer	See Footnote 1
R19: Deckbolts	June 1956	ISO/TC 8, Shipbuilding Details for Sea Navigation	Observer	No objection
R20: Rivets for Hatches	July 1956	ISO/TC 9, Shipbuilding Details for Inland Navigation	Observer	No objection
R21: Sprocket Wheels	July 1956	ISO/TC 9, Shipbuilding Details for Inland Navigation	Observer	No objection
R23: Emulsion and Sound Record Positions in Camera for 35 mm Sound Motion Picture Film	Nov. 1956	ISO/TC 36 Cinematography	Secretariat	Approval
*R24: Emulsion and Sound Record Positions in Projector for 35 mm Sound Motion Picture Film	Nov. 1956	ISO/TC 36 Cinematography	Secretariat	Approval
*R25: Emulsion Position in Camera for 16 mm Silent Motion Picture Film	Nov. 1956	ISO/TC 36 Cinematography	Secretariat	Approval
*R26: Emulsion Position in Projector for Direct Front Projection of 16 mm Silent Motion Picture Film	Nov. 1956	ISO/TC 36 Cinematography	Secretariat	Approval
*R27: Emulsion and Sound Record Positions in Camera for 16 mm Sound Motion Picture Film	Nov. 1956	ISO/TC 36 Cinematography	Secretariat	Approval
*R28: Emulsion Position in Camera for 8 mm Silent Motion Picture Film	Nov. 1956	ISO/TC 36 Cinematography	Secretariat	Approval
*R29: Emulsion Position in Projector for Direct Front Projection of 8 mm Silent Motion Picture Film	Nov. 1956	ISO/TC 36 Cinematography	Secretariat	Approval
R30: Bibliographical Strip	Nov. 1956	ISO/TC 46 Documentation	Participant	No objection
R38: Bollards (Vertical Type) with and without Lugs	May 1957	ISO/TC 8 Shipbuilding Details for Sea Navigation	Observer	No objection
R39: Anchor Chains —Lugless Joining Shackles, Kenter Type	May 1957	ISO/TC 8 S ipbuilding Details for Sea Navigation	Observer	No objection

*The American Standard in this field was used as a basis for discussion in the development of this recommendation.

Footnote No. 1. The United States presented specific objections to this draft recommendation to the General Secretary of ISO, under date of October 8, 1953.

AMERICAN STANDARDS UNDER WAY

Status as of November 18, 1957

Legend — *Standards Council* — Approval by Standards Council is final approval as American Standard; usually requires 4 weeks. *Board of Review*— Acts for Standards Council and gives final approval as American Standard; action usually requires 2 weeks. *Standards Board* — Approves standards to send to Standards Council or Board of Review for final action; approval by standards boards usually takes 4 weeks.

Note — Send check when ordering standards listed as published to avoid service charge for handling.

BUILDING AND CONSTRUCTION

In Board of Review

Insulating Fire Brick, Classification of, ASTM C 155-57; ASA A111.22- (Revision of ASTM C 155-47; ASA A 111.22—1955)

Sponsor: American Society for Testing Materials

Places of Outdoor Assembly, NFPA 102; ASA Z20.3- (Revision of Z20.3-1950)

Sponsor: National Fire Protection Association; Building Officials Conference of America

In Standards Board

Gypsum Plasters, Specifications for, ASTM C 28-57; ASA A49.3- (Revision of ASTM C 28-55; ASA A49.3-1956)

Sponsor: American Society for Testing Materials

Billet-Steel Bars for Concrete Reinforcement, Specifications for, ASTM A 15-57T; ASA A50.1- (Revision of ASTM A 15-54T; ASA A50.1-1956)

Rail-Steel Bars for Concrete Reinforcement, Specifications for, ASTM A 16-57T; ASA A50.2- (Revision of ASTM A 16-54T; ASA A50.2-1956)

Sponsor: American Society for Testing Materials

Structural Clay Load-Bearing Wall Tile, Specifications for, ASTM C 34-57; ASA A74.1- (Revision of ASTM C 34-55; ASA A74.1-1956)

Sponsor: American Society for Testing Materials

Structural Clay Non-Load-Bearing Tile, Specifications for, ASTM C 56-57; ASA A76.1- (Revision of ASTM C 56-52; ASA A76.1-1953)

Sponsor: American Society for Testing Materials

Structural Clay Floor Tile, Specifications for, ASTM C 57-57; ASA A77.1- (Revision of ASTM C 57-52; ASA A77.1-1953)

Sponsor: American Society for Testing Materials

Brick, Methods of Sampling and Testing, ASTM C 67-57; ASA A82.1- (Revision of ASTM C 67-50; ASA A82.1-1951)

Sponsor: American Society for Testing Materials

Building Brick (Solid Masonry Units Made from Clay or Shale), Specifications for, ASTM C 62-57; ASA A98.1- (Revision of ASTM C 62-50; ASA A98.1-1953)

Sponsor: American Society for Testing Materials

Facing Brick (Solid Masonry Units Made from Clay or Shale), Specifications for, ASTM C 216-57; ASA A99.1- (Revision of ASTM C 216-50; ASA A99.1-1953)

Sponsor: American Society for Testing Materials

Inorganic Aggregates for Use in Gypsum Plaster, Specifications for, ASTM C 35-57T; ASA A107.1- (Revision of ASTM C 35-54T; ASA A107.1-1956)

Sponsor: American Society for Testing Materials

Axle-Steel Bars for Concrete Reinforcement, Specifications for, ASTM A 160-57T; ASA G43.1- (Revision of ASTM A 160-54T; ASA G43.1-1956)

Sponsor: American Society for Testing Materials

High-Strength Steel Castings for Structural Purposes, Specifications for, ASTM A 148-57; ASA G52.1- (Revision of ASTM A 148-55; ASA G52.1-1956)

Sponsor: American Society for Testing Materials

DRAWINGS, SYMBOLS, AND ABBREVIATIONS

In Standards Board

American Drafting Standards Manual, Section 3, Projections, Y14.3- Section 6, Screw Threads, Y14.6-

Sponsors: American Society of Engineering Education; American Society of Mechanical Engineers

ELECTRIC AND ELECTRONIC

American Standards Published

Weather-Resistant Wire and Cable, Polyethylene Type, Specifications for, C8.35-1957 $0.75

Sponsor: Electrical Standards Board

Flexible Cord and Fixture Wire, Safety Standard for, C33.1-1957 (Revision of C33.1-1954) $1.50

Sponsor: Underwriters' Laboratories

Definitions of Electrical Terms, C42
Group 10, Rotating Machinery, C42.10-1957 $1.20
Group 20, Switchgear, C42.20-1956 $1.20
Group 25, Industrial Control Equipment, C42.25-1956 $0.80
Group 30, Instruments, Meters and Meter Testing, C42.30-1957 $1.20
Group 35, Generation, Transmission and Distribution, C42.35-1957 $1.20
Group 60, Electrochemistry and Electrometallurgy, C42.60-1956 $0.60
Group 70, Electron Devices, C42.70-1957 $1.00
Group 80, Electrobiology including Electro-therapeutics, C42.80-1957 $0.60
Group 85, Mining, C42.85-1956 $0.60

Sponsor: American Institute of Electrical Engineers

Spotlight and Floodlight Service Incandescent Lamps for 115, 120, and 125 Volts, C78.105-1957 (Revision of C78.105-1949) $0.25

Sponsor: Electrical Standards Board

American Standards Approved

Definitions of Electrical Terms, C42
Group 95, Miscellaneous, C42.95-1957

Sponsor: American Institute of Electrical Engineers

Fluorescent Lamp Reference Ballasts, Specification for, C82.3-1957 (Revision of C82.3-1956)

Sponsor: Electrical Standards Board

In Board of Review

Soft or Annealed Copper Wire, Specifications for, ASTM B 3-56; ASA C7.1- (Revision of ASTM B 3-54T; ASA C7.1-1955)

Tinned Soft or Annealed Copper Wire for Electrical Purposes, Specifications for, ASTM B 33-56-T; ASA C7.4- (Revision of ASTM B 33-53T; ASA C7.4-1953)

Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft, Specifications for, ASTM B 8-56; ASA C7.8- (Revision of ASTM B 8-53; ASA C7.8-1953)

Lead-Coated and Lead-Alloy-Coated Soft Copper Wire for Electrical Purposes, Specifications for, ASTM B 189-56T; ASA C7.15- (Revision of ASTM B 189-53T; ASA C7.15-1953)

Cored, Annular, Concentric-Lay-Stranded Copper Conductors, Specifications for, ASTM B 226-56; ASA C7.16- (Revision of ASTM B 226-52; ASA C7.16-1953)

Concentric-Lay-Stranded Copper Covered Steel Conductors, Specifications for, ASTM B 228-56; ASA C7.18- (Revision of ASTM B 228-52; ASA C7.18-1953)

Concentric-Lay-Stranded Copper and Copper Covered Steel Composite Conductors, Specifications for, ASTM B 229-56; ASA C7.19- (Revision of ASTM B 229-52; ASA C7.19-1953)

Copper Bus Bar, Rod, and Shapes, Specifications for, ASTM B 187-55; ASA C7.25- (Revision of ASTM B 187-52; ASA C7.25-1953)

Seamless Copper Bus Pipe and Tube, Specifications for, ASTM B 188-56; ASA C7.26- (Revision of ASTM B 188-52; ASA C7.26-1953)

Determination of Cross-Sectional Area of Stranded Conductors, Method for, ASTM B 263-56T; ASA C7.29- (Revision of ASTM B 263-53T; ASA C7.29-1953)

Three-Quarter Hard Aluminum Wire for Electrical Purposes, Specifications for, ASTM B 262-56; ASA C7.35- (Revision of ASTM B 262-55; ASA C7.35-1956)

Tinned Hard-Drawn and Medium-Hard-Drawn Copper Wire for Electrical Purposes, Specifications for, ASTM B 246-56T; ASA C7.37-

Silver-Coated Soft or Annealed Copper Wire, Specifications for, ASTM B 298-56T; ASA C7.38-

Sponsor: American Society for Testing Materials

In Standards Board

Laminated Tubes Used for Electrical Insulation, Methods of Testing, ASTM D 348-56; ASA C59.14- (Revision of ASTM D 348-52; ASA C59.14-1954)

Laminated Round Rods Used for Electrical Insulation, Methods of Testing, ASTM D 349-56; ASA C59.15- (Revision of ASTM D 349-52; ASA C59.15-1954)

Electrical Insulating Oils, Method for Sampling, ASTM D 923-56; ASA C59.21- (Revision of ASTM D 923-49; ASA C59.21-1951)

Natural Block Mica and Mica Films Suitable for Use in Fixed Mica-Dielectric Capacitors, Specifications for, ASTM D 748-54T; ASA C59.26- (Revision of ASTM D 748-52T; ASA C59.26-1954)

Sponsor: American Society for Testing Materials

Specialty Transformers, Requirements and Terminology for, C89.1-

Sponsor: National Electrical Manufacturers Association

GAS-BURNING APPLIANCES

American Standards Published

Approval Requirements for Gas Water Heaters, Volume II, Side-Arm Type Water Heaters, Z21.10.2a-1957, (Addenda to Z21.10.2-1956) $0.15

Approval Requirements for Domestic Gas Clothes Dryers Z21.5a-1957 (Addenda to Z21.5-1956) $0.15

Installation of Gas Conversion Burners in Domestic Ranges, Requirements for, Z21.38-1957 (Revision of Z21.38-1953 and Z21.38a-1955) $0.25

Sponsor: American Gas Association

MATERIALS AND TESTING

American Standard Approved

Natural Muscovite Mica Based on Visual Quality, Specifications for, ASTM D 351-57; ASA C59.27-1957 (Revision of ASTM D 351-53T; ASA C59.27-1955)

Sponsor: American Society for Testing Materials

MECHANICAL

American Standard Published

Compressed Gas Cylinder Valve Outlet and Inlet Connections, B57.1-1957 (Revision of B57.1-1953) $1.50

Sponsor: Compressed Gas Association

American Standard Approved

Carbide Blanks and Cutting Tools, B5. 36-1957 (Partial revision of B5.22-1950)

Sponsors: American Society of Mechanical Engineers; National Machine Tool Builders' Association; Society of Automotive Engineers; Metal Cutting Tool Institute; American Society of Tool Engineers

In Board of Review

Carbon-Silicon Steel Plates of Intermediate Tensile Ranges for Fusion-Welded Boilers and Other Pressure Vessels, Specifications for, ASTM A 201-57T; ASA G31.1- (Revision of ASTM A 201-54T; ASA G31.1-1956)

Sponsor: American Society for Testing Materials

Molybdenum-Steel Plates for Boilers and Other Pressure Vessels, Specifications for, ASTM A 204-57; ASA G34.1- (Revision of ASTM A 204-56; ASA G34.1-1956)

Sponsor: American Society for Testing Materials

High Tensile Strength Carbon-Silicon Steel Plates for Boilers and Other Pressure Vessels, Specifications for, ASTM A 212-57T; ASA G35.1- (Revision of ASTM A 212-54T; ASA G35.1-1956)

Sponsor: American Society for Testing Materials

Mild- to Medium-Strength Carbon-Steel Castings for General Application, Specifications for, ASTM A 27-57; ASA G50.1- (Revision of ASTM A 27-55; ASA G50.1-1956)

Sponsor: American Society for Testing Materials

PAINTS AND VARNISHES

In Board of Review

Tinting Strength of White Pigments, Method of Test for, ASTM D 332-57T; ASA K56.1- (Revision of ASTM D 332-55T; ASA K56.1-1956)

Sponsor: American Society for Testing Materials

Dry Mercuric Oxide, Chemical Analysis of, ASTM D 284-57T; ASA K59.1- (Revision of ASTM D 284-33; ASA K59-1941)

Sponsor: American Society for Testing Materials

PETROLEUM PRODUCTS AND LUBRICANTS

American Standards Approved

Melting Point of Paraffin Wax, Method of Test for, ASTM D 87-57; ASA Z11.4-1957 (Revision of ASTM D 87-42; ASA Z11.4-1942)

Cloud and Pour Points, Method of Test for, ASTM D 97-57; ASA Z11.5-1957 (Revision of ASTM D 97-47; ASA Z11.5-1948)

Flash and Fire Points by Cleveland Open Cup, Method of Test for, ASTM D 92-57. ASA Z11.6-1957 (Revision of ASTM D 92-56; ASA Z11.6-1956)

Heat for Combustion of Liquids by Bomb Calorimeter, Tentative Method of Test for, ASTM D 240-57T; ASA Z11.14-1957 (Revision of ASTM D 240-50; ASA Z11.14-1950)

Definitions of Terms Relating to Petroleum, ASTM D 288-57; ASA Z11.28-1957 (Revision of ASTM D 288-53; ASA Z11.28-1953)

Existent Gum in Fuels by Jet Evaporation, Tentative Method of Test for, ASTM D 381-57T; ASA Z11.36-1957 (Revision of ASTM D 381-53T; ASA Z11.36-1953)

Distillation of Plant Spray Oils, Tentative Method of Test for, ASTM D 447-57T; ASA Z11.43-1957 (Revision of ASTM D 447-55; ASA Z11.43-1955)

Kinematic Viscosity to Saybolt Furol Viscosity, Method of Conversion of, ASTM D 666-57; ASA Z11.53-1957 (Revision of ASTM D 666-53; ASA Z11.53-1953)

Oxidation Stability of Aviation Gasoline (Potential Gum Method), Method of Test for, ASTM D 873-57T; ASA Z11.60-1957 (Revision of ASTM D 873-49; ASA Z11.60-1949)

Sulfated Residue from New Lubricating Oils, Tentative Method of Test for, ASTM D 874-57T; ASA Z11.68-1957 (Revision of ASTM D 874-55; ASA Z11.68-1955)

Olefinic Plus Aromatic Hydrocarbons in Petroleum Distillates, Tentative Method of Test for, ASTM D 1019-57T; ASA Z11.71-1957 (Revision of ASTM D 1019-56T; ASA Z11.71-1956)

Water Tolerance of Aircraft Fuels, Method of Test for, ASTM D 1094-57; ASA Z11.82-1957 (Revision of ASTM D 1094-53; ASA Z11.82-1953)

60 Octane Number Iso-octane-Normal Heptane ASTM Knock Test Reference Fuel Blends by Infrared Spectrophotometry, Test for Analysis of, ASTM D 1095-54; ASA Z11.94-1957

1, 3-Butadiene in C_4 Hydrocarbon Mixture by Ultraviolet Spectrophotometry, Test for, ASTM D 1096-54; ASA Z11.95-1957

Density and Specific Gravity of Liquids by Bingham Pycnometer, Test for, ASTM D 1217-54; ASA Z11.96-1957

Unsaturated Light Hydrocarbons (Silver-Mercuric Nitrate Method), Test for, ASTM D 1268-55; ASA Z11.97-1957

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PHOTOGRAPHY

American Standards Published

Evaluating Films for Monitoring X-rays and Gamma Rays Having Energies up to 2 Million Electron Volts, Method for, PH2.10-1956 $0.75

Provides methods for determining reproducible high and low reference exposures which are intended to assist the user in determining the useful range of film for radiation monitoring. Sensitometric procedures are described for films exposed to x-rays and gamma rays from radioactive substances. Recommended sensitometric procedures are also given for combinations of films and absorbers or intensifying screens where these arrangements are used for radiation monitoring.

Sponsor: Photographic Standards Board

Practice for Storage of Microfilm, PH5.4-1957 $0.50

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In Board of Review

Photographic Films for Permanent Records, Specifications for, PH1.28- (Revision of Z38.3.2-1945)

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In Standards Board

Focal Length Marking of Lenses, PH3.13- (Revision of Z38.4.4-1942)

Distribution of Illuminance Over the Field of a Photographic Objective or Projection Lens, PH3.22-

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PIPE AND FITTINGS

In Board of Review

Forged or Rolled Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service, Specifications for, ASTM A 105-57T; ASA G17.3- (Revision of ASTM A 105-46; ASA G17.3-1947)
Sponsor: American Society for Testing Materials

Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service, Specifications for, ASTM A 182-57T; ASA G37.1- (Revision of ASTM A 182-56T; ASA G37.1-1957)
Sponsor: American Society for Testing Materials

Forged or Rolled Steel Pipe Flanges, Forged Fittings, and Valves and Parts for General Service, Specifications for, ASTM A 181-57T; ASA G46.1- (Revision of ASTM A 181-55T; ASA G46.1-1956)
Sponsor: American Society for Testing Materials

Seamless Copper Pipe, Standard Sizes, Specifications for, ASTM B 42-57; ASA H26.1- (Revision of ASTM B 42-55; ASA H26.1-1956)
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Seamless Red Brass Pipe, Standard Sizes, Specifications for, ASTM B 43-57; ASA H27.1- (Revision of ASTM B 43-55; ASA H27.1-1956)
Sponsor: American Society for Testing Materials

In Standards Board

Steel Pipe Flanges and Flanged Fittings, B16.5 (Revision of B16.5-1953)
Sponsors: American Society of Mechanical Engineers; Mechanical Contractors Association of America; Manufacturers Standardization Society of the Valve and Fittings Industry

RUBBER INDUSTRY

In Board of Review

Sample Preparation for Physical Testing of Rubber Products, Methods of, ASTM D 15-57T; ASA J1.1- (Revision of ASTM D 15-55T; ASA J1.1-1956)
Sponsor: American Society for Testing Materials

SAFETY

American Standards Published

Installation and Operation of Pulverized-Fuel Systems, NFPA 60; ASA Z12.1-1957, 2nd edition (Revision of Z12.1-1957 and Z12.17-1946) $0.50

Dust Explosions in Starch Factories, Prevention of, NFPA 61A; ASA Z12.2-1957 (Revision of Z12.2-1944) $0.50
Sponsor: National Fire Protection Association

In Standards Board

Safety Code for Conveyors, Cableways, and Related Equipment, B20.1- (Revision of B20.1-1947)
Sponsors: American Society of Mechanical Engineers; Accident Prevention Dept of the Association of Casualty and Surety Companies

TEXTILES

American Standards Approved

Methods of Testing and Tolerances for Cotton Sewing Threads, ASTM D 204-56; ASA L14.14-1957 (Revision of ASTM D 204-42; ASA L14.14-1949)

Method of Testing Spun and Filament Yarns Made Wholly or in Part of Man-Made Organic Base Fibers, ASTM D 1380-56T; ASA L14.90-1957

Method of Test for Length and Length Distribution of Cotton Fibers by the Array Method, ASTM D 1440-55; ASA L14.91-1957

Methods of Sampling Cotton Fibers for Testing, ASTM D 1441-54; ASA L14.92-1957

Method of Test for Fiber Weight per Unit Length and Maturity of Cotton Fibers (Array Method), ASTM D 1442-54; ASA L14.93-1957

Method of Test for Maturity of Cotton Fibers (Random Sample-Sodium Hydroxide Swelling Method), ASTM D 1443-56; ASA L14.94-1957

Method of Test for Cross-Sectional Characteristics of Cotton Fibers, ASTM D 1444-56; ASA L14.95-1957

Method of Test for Strength of Cotton Fibers (Flat Bundle Method), ASTM D 1445-53T; ASA L14.96-1957

Method of Test for Number of Neps in Cotton Fibers, ASTM D 1446-53T; ASA L14.97-1957

Method of Test for Length of Cotton Fibers by Fibrograph, ASTM D 1447-54T; ASA L14.98-1957

Method of Test for Micronaire Fineness of Cotton Fibers, ASTM D 1448-56; ASA L14.99-1957

Method for Determining the Specific Area and Immaturity Ratio of Cotton Fibers (Arealometer Method), ASTM D 1449-55T; ASA L14.100-1957

Method of Test for Maturity of Cotton Fibers (Polarized-Light Method), ASTM D 1450-55T; ASA L14.101-1957

Method of Test for Resistance to Yarn Slippage in Silk, Rayon and Acetate Woven Fabrics, ASTM D 434-42; ASA L14.102-1957

Method of Test for Yarn Distortion in Woven Fabrics, ASTM D 1336-54T; ASA L14.103-1957
Sponsors: American Association of Textile Chemists and Colorists; American Society for Testing Materials

WHAT'S NEW ON AMERICAN STANDARD PROJECTS

Small Tools and Machine Tool Elements, B5—

Sponsors: American Society of Mechanical Engineers; American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers

A limited number of copies of the proposed new American Standard on splines is being made available by the Society of Automotive Engineers and the American Society of Mechanical Engineers. This new edition is a revision of three American Standards — involute splines, side bearing, B5.15-1950; involute serrations, B5.26-1950; and involute splines and serration gages and gaging, B5.31-1953.

For copies, write SAE at 485 Lexington Avenue, New York 17, N. Y. or ASME at 29 West 39 Street, New York 18, N. Y.

Note that this proposed revision does not change the status of the three standards listed above. They remain in effect as the latest approved American Standards on the subject.

Safety Code for Mechanical Refrigeration, B9—

Sponsor: American Society of Refrigerating Engineers

More cities and states are adopting the American Standard Safety Code for Mechanical Refrigeration, B9.1-1953, reports Henry G. Strong, executive secretary of the Refrigeration Industry Safety Advisory Committee.

As a result of action taken in 1957, the standard is included in codes adopted by Dallas, Cincinnati, and by the state of Maryland. In addition, the state of Ohio recently adopted a building code that includes the provisions of the American Standard. This was made possible as a result of efforts of a committee which worked with the state administrative authority drafting the code. A similar committee from the industry is working with authorities in the city of St Louis in revising the city code to include provisions of the Amercan Standard. Pennsylvania, too, has taken the first step toward use of the standard. It has just amended an old state boiler law that prevented the use of the American Standard in that state.

General and Administrative Standards for Nuclear Energy, N2—

Sponsor: Atomic Industrial Forum

W. A. McAdams, recently elected chairman of Sectional Committee N2, has been working on radiation

protection since 1944. He is consultant on radiation protection, engineering service, to the General Electric Company, Schenectady, and is chairman of the General Electric Conference on Radiation Protection. He is a member of ASA's Nuclear Standards Board, and chairman of the Subcommittee on Contamination Levels for Industrial Materials of ASA Sectional Committee Z54, Safety Code for the Industrial Use of X-rays and Radiation.

Mr McAdams started his career as ballistics engineer with E.I. du Pont de Nemours & Company in 1940. After supervising the Ballistics Laboratory of du Pont's Indiana Ordnance Works, he became research physicist with the Manhattan Atomic Project at the University of Chicago, doing research on fuel elements, fuel element failure under reactor conditions, and chemical separation processes for homogeneous reactors. Mr McAdams is coinventor of two fuel testing methods and of a separations process. The latter work was done with Dr Eugene Wigner, prominent Hungarian scientist.

In 1944, Mr McAdams became du Pont radiation protection engineer, and carried on research in radiation protection.

When he joined General Electric in 1945 he first served as supervisor of radiation protection in various parts of the G-E Hanford plant, later becoming assistant manager and then manager of radiation protection operations at Hanford. He has held his present position since November 1955.

Mr McAdams is a member of a number of national committees on radiation protection:—the subcommittee on radiation protection legislation of the National Committee on Radiation Protection; the committee on standards of the Atomic Industrial Forum; and the New York State Advisory Committee on the Radiation Code; the Committee on Standards of the Atomic Industrial Forum; and the New York State Advisory Committee on the Radiation Code. He is chairman of the Atomic Industrial Forum's subcommittee on general and administrative standards, and of the Health Physics Society's Committee on Standards.

W. A. McAdams

R. G. McAllister

Radiation Protection, N7–

Sponsors: Atomic Industrial Forum; National Safety Council

Remus G. McAllister, radiation specialist for the Liberty Mutual Insurance Company, Hopkinton, Mass., is chairman of Sectional Committee N7. Mr McAllister is particularly interested in the work of the committee. In his work at Liberty Mutual he makes radiological safety surveys in policyholders' plants, hospitals, and laboratories to assist them in solving their radiation protection problems. He has worked for the past 15 years in Liberty Mutual's Loss Prevention Department, first as a safety engineer and later as an industrial hygienist. For the past two years he has confined his efforts to radiological protection problems.

Mr McAllister has been a member of the American Industrial Hygiene Association for the past nine years. He is also a member of the Health Physics Society.

This committee held its first meeting September 11.

Chemical Engineering for the Nuclear Field, N5–

Sponsor: American Institute of Chemical Engineers

Work on chemical engineering standards for the nuclear field is under way with election of Stanley I. Winde as chairman and Wheaton W. Kraft as vice-chairman of Sectional Committee N5.

Mr Winde is assistant manager responsible for atomic engineering work in the Design Division of E. I. du Pont de Nemours' Engineering Department. He has been with du Pont since 1933. After experience as assistant area engineer, group head of industrial engineering, and group supervisor, in 1942 he became assistant design project manager for certain phases of the Manhattan District Project. After the war he returned to du Pont as superintendent of the technical division at the Chambers Works, Old Hickory, Tenn, plant. Transferred to the Wilmington, Delaware, headquarters of the company in 1948, he served as assistant design project manager and later supervising engineer. In 1950 he was appointed design project manager on work for the Atomic Energy Commission. In 1955 he was named to his present position in du Pont's design division as assistant manager of atomic engineering.

S. I. Winde

W. W. Kraft

Mr Kraft is vice-president and technical director of The Lummus Company, New York. He is a specialist in the field of distillation (particularly vacuum distillation), heat transfer, and fluidized solids systems. He holds 29 patents relating to chemical and oil refining processes and equipment. For several years he presented a number of lectures on heat transfer at the Polytechnic Institute and at Columbia University. He is author of a number of technical papers.

Mr Kraft has taken an active part in the work of the American Institute of Chemical Engineers since joining the Society in 1935. He is also a member of the Nuclear Engineering Division of the American Petroleum Institute, the American Chemical Society, Alpha Chi Sigma, and the Chemists' Club of New York.

J. Abrahams

IGNITOR

One who kindles a fire—Webster.

or

A stationary electrode which is partly immersed in the cathode pool and has the function of initiating a cathode spot—American Standard C42.70-1956.

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